Transcriptome-wide analysis of circRNA and RBP profiles and their molecular and clinical relevance for GBM

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ABSTRACT

Glioblastoma (GBM) is the most aggressive and lethal type of glioma, characterized by aberrant expression of non-coding RNAs including circular RNAs (circRNAs). They might impact cellular processes by interacting with other molecules – like microRNAs or RNA-binding proteins (RBPs). The diagnostic value of circRNAs and circRNAs/RBPs complexes is still largely unknown. To explore circRNAs and RBPs transcripts expression in GBM, we performed and further analyzed RNA-seq data from GBM patients' primary and recurrent tumor samples. We identified circRNAs differentially expressed in primary tumors, the circRNA progression markers in recurrent GBM samples as well as the expression profile of RBP transcripts. Subsequent analysis allowed us to generate a comprehensive catalog of circRNA-RBP interactions regarding both the RBPs sequestration by circRNA as well as the RBPs involvement in circRNA biogenesis. Furthermore, we demonstrated the clinical potential of circRNAs and RBPs in GBM and proposed them as the stratification markers in the de novo assembled tumor subtypes. Therefore, our transcriptome-wide study specified circRNA-RBP interactions that could play a significant regulatory role in gliomagenesis and GBM progression.

Keywords: circRNA/GBM/RBP/RNA-seq

1. Introduction

Gliomas are brain neoplasms originating from the glia and constitute the majority of all primary tumors in the central nervous system. They are classified into four grade groups, based on histological, genetic, and prognostic features. Low-grade gliomas (I and II grades) exhibit minor metastasis and recurrence potential, while high-grade gliomas (III and IV grades) present significant recurrence and progression prognosis [1]. Glioblastoma (GBM) - an IV-grade glioma is the most lethal, aggressive, and malignant among brain tumors in adults, with a median survival of 14.6 months post-treatment [2]. Current therapies, which are not curative, include radiotherapy and temozolomide-based chemotherapy [3]. Due to the lack of effective treatments, high internal molecular heterogeneity among GBM tissues, and high rate of recurrence, there is an urgent need to better understand the molecular basis of GBM and improve patient stratification, defining signatures useful as potential diagnostic and prognostic markers and most importantly to identify new therapeutic targets.

The most common molecular stratification parameter of GBM is the presence of mutations in isocitrate dehydrogenase - *IDH1* and *IDH2* genes. These mutations are most frequent in secondary GBM and predict a favorable disease outcome with prolonged median survival [4, 5]. An additional molecular classification of GBM comprises of 4 submolecular groups: proneural, classical, mesenchymal, and neural which are distinguished by specific gene expression patterns, mutations and associated with different tumor aggressiveness and prognosis for treatment response [6].

In recent years, non-coding RNAs (ncRNAs) and particularly circular RNAs (circRNAs) have gained attention as key players in cancer and potential therapeutic targets. CircRNAs are single-stranded RNA molecules produced by "back-splicing", which joins a downstream 5' donor splice site and an upstream 3' acceptor splice site [7]. Due to their intrinsic resistance to exonuclease cleavage, circRNAs have a longer half-life in comparison to their linear counterparts making them promising cancer biomarkers [8-15].

Recent studies have highlighted the role of RNA binding proteins (RBPs) in the biogenesis and maintenance of circRNAs, influencing the transcriptome's molecular balance [16, 17]. CircRNAs can act also as miRNA and RBPs sponges potentially impacting gene expression and cellular pathways significantly [12, 18-24]. The interactions between circRNAs and RBPs rely on binding motifs and contextual features, such as secondary structure, flanking

nucleotide composition, or short non-sequential motifs [25]. Apart from the RBPs binding motifs, the biogenesis of circRNAs can be also facilitated by the presence of the complementary sequences in both flanking regions, like *Alu* elements [26]. Understanding nature and function of such interactions is crucial for understanding GBM, including tumor biology, progression, treatment response and survival rates [27-29].

In this study, we provide the comprehensive atlas of circRNAs and RBP transcripts differentially expressed in GBM. By utilizing deep total RNA-sequencing (RNA-seq) we established the expression profile of circRNAs and extensively studied their interaction with RBPs, including the potential impact on circRNA formation. First, we identified the differentially expressed circRNA in primary GBM patients' samples (GBM-PRM) as well as in the recurrent GBM samples (GBM-REC). We further experimentally validated the expression of selected circRNAs, their unique back-splice junction sequences and structures. Finally, based on the same dataset we have identified the profiles of RBPs transcripts expression in GBM. The study of circRNA and RBPs transcripts highlighted the potential binding sites within circRNAs and the RBPs possibly involved in circRNA biogenesis. Further analysis correlated circRNA and RBP expression with established GBM subtypes, leading to a new subtype classification that enhances patient stratification and identification of prognostic markers. Our global analysis pointed circRNAs significantly deregulated in GBM, offering new insights into potential diagnostic and therapeutic targets.

2. Results

2.1 circRNAs and RBPs transcripts are differentially expressed in GBM

2.1.1. Expression profile of circRNA in GBM

To define circRNA and RBPs mRNA expression profiles in primary (GBM-PRM, n=23) and recurrent GBM (GBM-REC, n=3) (Suppl. Tab. 1) in comparison to the healthy brain control (HB, n=52) (Suppl. Tab. 2), RNA sequencing was performed. Transcriptome sequencing approach was designed to simultaneously profile both circRNA and messenger RNA transcripts. We identified a total number of 29,141 circRNAs in all samples (Fig.1A) including more than 7,600 not previously annotated. The majority of identified circRNA were derived from exons (Suppl. Fig. 1A) and their length was similar among all analyzed samples with the median equal: 740, 631 and 555 nucleotides for HB, GBM-PRM and GBM-REC, respectively (Suppl. Fig. 1B-3D). The circRNA transcripts were distributed within all human chromosomes, including the chromosomes 1 and 2 particularly enriched in circRNAs (Suppl. Fig. 2). CircRNA expression profiles showed clear discrimination between GBM-PRM, GBM-REC and HB samples (Suppl. Fig. 3). The differential circRNA expression (DCE) analysis revealed 1270 circRNAs expressed between GBM-PRM and HB tissues with a log2 fold change in the range between -5.6 and 8.9 (adjusted p-value <0.05) where 1132 of circRNAs were downregulated and only 138 were upregulated (Fig. 1C). To search for circRNAs potentially involved in GBM progression we performed further DCE analysis between GBM-PRM and GBM-REC where we detected 3 differentially expressed circRNAs which were subsequently validated (Fig. 1D). To determine relationship between deregulated circRNAs and their linear counterparts we calculated the circular-to-linear ratio (CLR) based on the formula [circ / (circ + lin)]. A CLR value>0.5 indicates that the number of circular RNA molecules is higher than the corresponding mRNA, while a CLR value<0.5 indicates the opposite. Interestingly, the obtained results showed that in the most cases the number of circRNAs was higher than that the number of their parental linear counterparts

(CLR>0.5). Moreover, both circular and linear molecules were frequently upregulated, indicating a positive correlation between their expression levels (Fig. 1E, upper right quadrant of the figure).

To have a better insight into the role of differentially expressed circRNAs, we performed Gene Set Enrichment Analysis (GSEA) on their linear counterparts. The analysis revealed 22 GO terms with negative enrichment scores with most of them related to the neurotransmitter secretion, transport and regulation of their levels, signal release from synapse or ion transport. Although no enriched KEGG terms were found below adjusted p-value threshold (0.05), it is worth to note, that without multiple test correction among 13 enriched KEGG terms like 'Neuroactive ligand-receptor interaction', 'Synaptic vesicle cycle' and 'Glutamatergic synapse' were identified with negative enrichment scores (Suppl. Fig. 4).

Obtained results thus clearly indicate global deregulation of circRNAs in GBM, which may suggest their role in processes related to the development of this tumor type.

2.1.2. Expression profile of RBPs transcript in GBM

As mentioned previously, RBPs play a pivotal role in circRNA biogenesis, thus they might be involved in regulating the balance between the expression of circRNAs and their linear counterparts. Therefore, we performed the analysis of the expression profile of RBP transcripts based on RNA-seq obtained from the same data set. We have identified 1420 RBP transcripts in HB, 1436 in GBM-PRM, and 1430 in GBM-REC samples (Fig. 1F). Differential gene expression (DGE) analysis of RBPs transcripts resulted in the finding that 817 from 1542 known human RBPs [30] are characterized by the significantly altered expression in GBM-PRM (469 up- and 348 downregulated) with a log2 fold change in the range between -4.8 and 4.7 (Fig. 1G, Suppl. Fig. 5).

2.2 Characteristics and validation of circRNAs dysregulated in GBM-PRM and GBM-REC

The DCE analysis revealed a list of differentially expressed circRNA among GBM-PRM and HB samples and indicated their possible involvement in processes related to GBM development. The potential progression markers were additionally identified by the comparative expression analysis between GBM-PRM and GBM-REC samples. 11 circRNAs were selected for further validation based on the list of mostly downregulated and upregulated molecules in GBM.

Based on the analysis of GBM-PRM versus HB control, we selected 4 downregulated circRNAs (circCADPS2, circEPB41L5, circUNC13C and circUSP45) and 4 upregulated ones (circARID1A, circGUSBP1, circPLOD2 and circVCAN). The DCE analysis between GBM-REC and GBM-PRM allowed us to distinguish 3 circRNAs specifically upregulated in recurrent samples: circEGFR, and 2 new, not previously annotated, circRNAs coming from *HLA-B* gene, and intergenic circRNA originating from chromosome 6p22.1 named for convenience as circInter6p22 (Suppl. Tab. 3).

Further comparison of circular to linear read ratio of selected circRNAs based on RNA-seq data, showed that in almost all cases the circular transcript is less abundant than the linear form in GBM, with the exception of VCAN circRNA transcript more expressed than its linear counterpart. Interestingly, we also perceived that the relation between circular and linear transcripts might differ between HB and GBM. For instance, circEPB41L5 is more abundant than its parental transcript in healthy brain, but this interplay is reversed in GBM where the linear form is more abundantly expressed (Fig. 2A-2B).

In order to confirm the circular structure of the identified molecules, the RNase R treatment was performed (Suppl. Fig. 6). The obtained data clearly support the RNase R resistance and high RNA stability of the verified circRNA molecules. Subsequently, we used the same 8 GBM-PRM samples that were utilized in RNA-seq, to validate the RNA-seq results with RT-qPCR. Overall, we confirmed previous results of selected upregulated and downregulated circRNAs. Regarding downregulated circRNAs, we observed simultaneous downregulation of their linear transcripts with one exception – circEPB41L5 in which the linear form was upregulated in GBM-PRM (Fig. 2C). Among all upregulated candidates VCAN was distinguished as the most upregulated one (Fig. 2D). Regarding circular RNAs upregulated in GBM-REC in comparison to GBM-PRM, we noted the upregulation of circRNAs expression in comparison to their linear counterparts, with a strikingly elevated level of circEGFR reaching ~12000-fold change (Fig. 2E). Comparison of RNA-seq results with RT-qPCR supported obtained data in most cases (Fig. 2H). We also verified the correlation of the expression of circular and linear transcripts in analyzed samples and confirmed the significant positive correlation for UNC13C (r=0.997, p-value=<0,001), VCAN (r=0.6957, p-value=0.05533) in GBM-PRM vs. HB. Regarding circRNAs upregulated in GBM-REC we have also noticed high positive correlation between circular and linear isoforms for EGFR (r=0.9175, p-value=0.003587) and HLA-B (r=0.8896, p-value=0.007315) (Fig. 2I).

2.3 Interplay between circRNAs and RBPs

It is already known that RBPs regulate circRNAs biogenesis via binding to flanking introns and thus promote back-splicing process. They can also be sequestered by circRNAs acting as molecular sponges making them direct interactors in molecular processes. This interplay could be significant for the function of both circRNAs and RBPs, therefore we aimed to comprehensively investigate the interplay between those molecules [17, 31-34]

2.3.1 RBPs might be sequestered by circRNAs

In the first step, we verified potential probability of circRNAs to sequester RBPs. To examine which differentially expressed RBPs are able to bind to deregulated circRNAs, we calculated k-mers (k=6) enrichment in differentially expressed circRNAs in GBM-PRM vs. HB (both up- and downregulated) and compared them to each binding motif's position in RBPs. 6-mers enriched in differentially expressed circRNAs were mapped to the RBPs binding sites determined either by eCLIP or by RNA-bind and RNA-seq data [35]. As a result, we have obtained the list of 38 RBPs differentially expressed in GBM-PRM compared to HB tissue. We observed very distinct sequence patterns for RBP motifs enriched exclusively in downregulated vs upregulated circRNA. Namely, motifs enriched in downregulated circRNA were U-rich, whereas those for upregulated ones contained a lot of G and C nucleotides (Fig. 3, Suppl. Fig. 7). This observation indicated a distinct difference in the recognition sites of upregulated and downregulated circRNAs which might explain the discrimination mechanism between the binding of both types of molecules.

2.3.2 RBPs are correlated with circRNAs and their host gene expression

Next, we calculated correlation coefficients between the expression of previously identified differentially expressed RBPs and deregulated circRNA. We observed that expression levels of some RBPs significantly correlates with the expression levels of several hundred differentially expressed circRNAs (Fig. 4A, Suppl. Fig. 8). The vast majority exhibited a positive correlation, notably, the ELAV and CPEB families, which were downregulated in

GBM (Fig. 4A, marked as red bars). Conversely, ZFP36, RBM47, PTBP1, RBM5S and SF3B4 mostly showed negative correlation with circRNAs (Fig. 4A, marked as green bars). Then, we assessed whether the expression of these RBPs correlates with expression of circRNAs' linear counterparts. For this purpose, we used the subset of circRNAs parental mRNAs and calculated coefficients. Furthermore, we confirmed whether the correlation with RBPs have the same or opposite direction considering simultaneously circRNAs and mRNAs. Most of them showed the same direction of correlation in both circRNAs and corresponding mRNAs (Fig. 4B). Interestingly, RBPs positively correlated with circRNA expression (Fig. 4A marked as red bars) also showed positive correlation with mRNA expression in ~50% of cases. In contrast, RBPs with expression negatively correlated with circRNAs (ZFP36, PTBP1, RBM47, RBMS2 and SF3B4) mostly did not show significant correlation with mRNA expression. Moreover, we investigated which of the deregulated RBPs might be associated with circRNAs subjected to validation. We observed that there are RBPs with altered expression levels which correlates with the expression level of selected circRNAs - regarding upregulated circARID1A and circGUSP1 there were over 20 positively correlated RBPs (Fig. 4C).

2.3.3 RBPs might bind with flanking regions thus impact circRNAs biogenesis

As mentioned before, RBPs are important players in the circRNA biogenesis [17, 33, 34]. To identify the RBPs potentially involved in circRNAs biogenesis, we analyzed RBP 6-mers binding motifs enriched in flanking introns (up to 1000 nt upstream and downstream from the backsplice junction) of differentially expressed circRNAs in GBM vs. HB. We identified 14 differentially expressed RBP genes with binding motifs in the flanking introns across all the analyzed samples (Figure 5A). Correlation analysis between RBPs and circRNAs expression in GBM samples highlighted significant correlation with CPEB3, ELAVL2, ELAVL3, and KHDRBS2 showing a strong positive correlation with both up- and downregulated circRNAs - except one – ELAVL3 which correlated only with downregulated circRNAs. We also noted RBPs with a strong negative correlation with the expression level of upregulated circRNAs like IGF2BP2, and IGF2BP3. In search of potential circularization enhancers, we identified lowly expressed RBPs, which showed positive correlation with downregulated circRNAs (Fig. 5B-5C). CBEB3 was highly correlated with circRLF (rho = >0.8), circLRBA (rho = 0.7) and selected before as one of the most downregulated circRNAs in GBM - circEPB41L5 (rho = 0.65) (Fig. 5B), while KHDRBS2 showed strong positive correlation with circLRBA (rho >0.8) and circVMP1 (rho = 0.7). These findings might indicate RBPs exclusively involved in the regulation of circRNAs biogenesis.

2.3.4 RBPs could both impact circRNAs expression and be sequestered by them

We further investigated whether differentially expressed RBPs could both influence circRNAs biogenesis and be sequestered by the same circRNAs. We found a common set of 10 RBPs: CPEB3, ELAVL2, ELAVL3, KHDRBS2, RBM41, RBM47, RBMS2, SF3B4, TIA1, ZFP36 with motifs enriched in both - flanking introns and total sequence of circRNAs (Fig. 6A, Suppl. Fig. 9). Additionally, we calculated motif frequencies for these RBPs in the 100 nt regions encompassing the junction site (5' boundary and 3' boundary) and we defined intron-exon and exon-intron boundaries (Fig. 6B). For most RBPs, we observe similar motif frequencies in introns, boundaries and circRNA. However, an increased number of binding

sites was observed in the sequence covering the 5' boundary region for the CPEB3 protein. A similar dependence was noted in the case of the SF3B4, which was additionally characterized by an increased frequency of motifs in the 3' boundary of the circRNA (Fig. 6C). Altogether, it suggests that RBPs might play a dual role- both influence circRNAs biogenesis and at the same time be regulated by these molecules.

2.4 Combinatorial analysis of RBPs and circRNAs expression profiles suggest new patient stratification criteria

2.4.1 CircRNA expression is related to the GBM subtypes

We utilized the list of 840 genes from the TCGA GBM dataset and literature [6] as it provides the knowledge for unifying GBM transcriptomic and genomic data allowing for GBM molecular stratification into 4 molecular subtypes: classical, mesenchymal, preneural and neural. The provided framework allowed us to cluster the analyzed 23 GBM study samples into classical (5 samples), mesenchymal (8), neural (5), and proneural (5) (Fig. 7A). Then we determined the presence of different circRNAs in each of the individual molecular subtypes (Fig. 7B). We identified 54 differentially expressed circRNAs in the neural subtype versus other subtypes, where circERC1 and circMLIP were characterized by the highest expression levels (Fig. 7C, Suppl. Tab. 4). The data show the high similarity of the neural subtype to the HB samples. Interestingly, we further distinguished overexpressed circCOL4A1 and circCOL1A2 which were upregulated in the mesenchymal subtype (Suppl. Tab. 5). Moreover, in this subtype, we observed decreased expression of circRBM39 and circRIMS2. Noteworthy, we did not find any circRNAs related exclusively to the classical and proneural subtypes.

2.4.2 RBPs in GBM can be used as the new potential stratification markers

To assess also the clinical value of RBPs in GBM we aimed to identify RBP-based signatures for patient stratification. At first, we subset RBPs able to discretize patients into two clusters according to their expression with no significant association with GBM molecular subtypes. We identified RBPs that cluster GBM samples into two or more groups (Suppl. Tab. 6). Next, we focused on RBPs whose expression in at least one of these newly defined clusters was differentially expressed in comparison to HB samples. We observed a prevalent upregulation of RBPs in the novel subgroups of patients (Fig. 7D). The overall expression of these RBPs was able to separate GBMs from HB samples, with the clusterization of patients in two major newly identified subgroups, independent from the GBM molecular subtypes. We were also looking for RBPs potentially related to the previously mentioned known 4 molecular subtypes and established that there are 41 of them (Suppl. Fig. 5). From these RBPs, we found 7 with motifs enriched in differentially expressed circRNA and/or flanking sequences (CPEB1, CPEB3, ELAVL2, ELAVL3, IGF2BP3, RBM47, RBM6) (Fig. 7E, highlighted in red). RBM47 was highly expressed in mesenchymal, RBM6 in classical, and IGF2BP3 in classical and proneural subtypes (Fig. 7E). Majority (6) of 7 selected RBPs further cluster GBM samples into 2 newly defined groups (Fig. 7F) and ELAVL3 cluster GBM samples into 3 groups (Fig. 7G). Thus, RBPs expression profile might be taken into consideration as an additional factor stratifying individual GBM tumors, which could enrich the current division.

2.4.3 RBPs expression correlates with the overall survival rates of GBM patients

Finally, we checked the differentially expressed RBPs and their correlation with the overall survival rates (OVS) of GBM patients. We utilized available data from TCGA GBM dataset. We selected patients with high or low expression of the given RBPs and found that 30 RBPs differentially expressed in our 23 GBM samples were significantly correlated with OVS in the TCGA GBM cohort (Suppl. Fig. 10A - upregulated RBPs, 10B - downregulated ones). 22 of them were previously shown to be brain tumor markers, correlated with disease outcome or response to the treatment (Suppl. Tab. 7).

3. Discussion and future perspectives

In our study, we conducted an extensive RNA-seq screen focusing on circRNA and RBP expression profiles as well as their interactions. We detected circRNAs differentially expressed in GBM primary tumors, identified the circRNA progression markers in GBM recurrent ones, as well as we established the expression profile of RBP transcripts. Further analysis enabled us to generate a comprehensive catalog of circRNA-RBP interactions including the sequestration of RBPs by circRNA and their involvement in circRNA biogenesis. Additionally, we demonstrated also the clinical potential of circRNAs and RBPs in GBM and identified them as the stratification markers in the *de novo* assembled tumor subtypes.

Given that GBM is an aggressive, therapy-resistant brain tumor with high inter- and intra-tumoral diversity, there is an urgent need to understand the transcriptome profile of this tumor type to find new, distinctive molecular biomarkers and therapeutic targets for GBM. Due to their high stability and brain-specific expression pattern, circRNAs are considered remarkably interesting as potential cancer molecular signatures [36-38]. Additionally, their role in cancer-related processes namely proliferation, migration, invasion, and apoptosis in GBM have already been studied and verified [39]. Most of the studies concerning circRNA in GBM are focused on a single or a few molecules and their specific mechanism of action with only a few studies attended to high-throughput circRNA profiling in GBM [40-43]. One study reported up to now the GBM patients–derived data being however focused on general cancer-related mechanisms. The findings reveal that certain circRNAs are deregulated across multiple types of cancers, including GBM, esophageal squamous cell carcinoma, lung adenocarcinoma, thyroid cancer, colorectal cancer, gastric cancer, and hepatocellular carcinoma. Despite these observations, the study does not solely focus on GBM, nor validates the obtained results. Additionally, it did not provide any description of the complex network of interactions and dependencies between circRNAs, their linear counterparts, and RBPs in glioblastoma [44].

In our study, we identified 1270 circRNAs differentially expressed in GBM-PRM samples compared to HB controls with almost 90% being downregulated. This pattern aligns with previously published circRNA profiles in different cancer types, including GBM, indicating a potential competition in biogenesis between circRNAs and mRNAs utilized for the protein synthesis - essential for proliferating tumor cells [43, 45-48]. Further, common downregulation of circRNAs observed in cancer cells can be caused by their extensive proliferation. This could dilute the concentration of stable circRNAs as previously suggested [45, 49]. It is also supported by the opposite phenomena, namely the accumulation of circRNA in the non-proliferating aging mouse brain, mainly composed of post-mitotic cells [50]. Similar trends can be observed in *D. melanogaster* and *C. elegans* aging models [51, 52]. On the contrary, in T-cell acute lymphoblastic leukemia (T-ALL) the majority of deregulated circRNAs showed increased expression in comparison to normal thymocytes

[53]. Tumor cells display a high rate of transcription, especially in aggressive cancers like GBM, while the increased incidence of back-splicing happens rather when co-transcriptional processing activities are inhibited or slowed down [54, 55]. This agrees with our analysis, where circRNA downregulation is in most cases independent of changes in their linear counterparts which suggests no impairment in the transcription process but rather the involvement of back-splicing.

Prior research has demonstrated that dysregulation of circRNAs might exert oncogenic functions in GBM, both downregulated in high-grade glioma circBRAF and upregulated in GBM circPITX1 are associated with poor patients' prognosis [43, 56]. In our study, among downregulated circRNAs, circEBP41L5 was detected as the most decreased one in GBM and displays the biggest discrepancy between the expression of linear and circular transcripts. In the literature, circEBP41L5 is described as a GBM suppressor wthat acts through miR-19a sponging, thus it could serve as a prognostic or therapeutic molecule for new clinical approaches [57]. Remaining downregulated circRNAs might act as suppressors and require further studies to better understand the mechanism underlying GBM.
In the remaining 10% of upregulated circRNA in GBM, the most upregulated appeared to be circVCAN which high expression is observed also in gastric cancer [58] and radioresistant glioma tissues [59]. The knockdown of these circRNAs resulted in the inhibition of cell proliferation, migration, and invasion, and accelerated apoptosis by regulating miR-587 [58] and miR-1183 [59]. Another validated differentially expressed circRNA with elevated expression levels in our GBM tissues – circPLOD2 was also found upregulated in GBM in a previous study [60]. This finding indicates an immense potential of circPLOD2 as a biomarker of GBM. CircPLOD2 has also been described as a promoter of tumorigenesis and recurrence biomarker in colon cancer. [61, 62]. It is also frequently upregulated under hypoxia conditions in HeLa and MCF-7 cancer cell lines which mimic oxygen-deprived core of tumor mass [63]. There are no literature reports on selected circARID1A and circGUSPB1 which are overexpressed in GBM. The mRNA of *ARID1A* gene emerged as a cancer suppressor in different cancers. The absence of ARID1A in cancer can lead to widespread dysregulation of gene expression in cancer initiation, promotion, and progression [64, 65]. We also tried to distinguish potential molecular markers of GBM progression based on our analysis. 3 circRNAs: circEGFR, circHLA-B, circInter6p22 were found differentially expressed between GBM-PRM and GBM-REC tissue samples. The most overexpressed candidate, particularly in GBM-REC tumors, is circEGFR. CircEGFR is derived from the EGFR gene which is a well-established oncogene in various cancers [66, 67]. In contrast, circEFGR was also found as an inhibitor of the malignant progression of glioma by regulating the levels of miR-183-5p and TUSC2 [68]. Since there are different circEGFR isoforms originating from different genomic locations, the isoform defined in the mentioned report (hsa_circ_0080223) shows downregulation in tumor tissues, however circEGFR regarding our research (hsa_circ_0080229) is upregulated. Another study, consistent with our findings, indicates that hsa_circ_0080229 upregulates the expression of murine double minute-2 (MDM2) and promotes glioma tumorigenesis and invasion via the miR-1827 sponging mechanism [69]. This proposes that the expression of circEGFR is increasing with tumor progression. Our results, although observed in a depleted group of samples and should be interpreted with caution, supported this hypothesis and it could be intriguing to further examine additional glioma tissues of different histopathological grades in the future.

Previous studies revealed that the expression pattern of circRNAs and their circularization are significantly affected by RBPs which bind to the specific motifs in pre-mRNA [17, 34]. We observed significant changes in the expression of ~half of annotated human RBPome in GBM, which suggests that some of the changes in circRNA expression may be caused by disruption of their biogenesis. Moreover, these direct interactions of circRNAs with RBPs can substantially affect molecular processes [70]. Additionally, circRNAs can act as protein sponges, decoys that regulate protein accessibility in cell compartments, and also as scaffolds that allow protein-protein interactions mediating both circRNA and RBP functions [33]. Based on these findings, we decided to analyze the transcriptome of RBPs which could potentially interact with our deregulated circRNAs. In our data, recognition motifs for 38 RBPs are enriched in differentially expressed circRNAs. In our study, upregulated circRNAs are mostly motifs enriched in G and C in differentially expressed RBPs. It was shown that RBPs enriched in G-rich motifs might be splicing activators, that might potentially explain the upregulation of circRNAs to which they bind [25]. On the other hand, downregulated circRNAs are in U-rich motifs. It was previously shown that U-rich motifs correlate with higher mRNA decay rates [71]. Further analyses showed that ELAV families, downregulated in GBM, are correlated with the highest number of downregulated circRNAs. ELAVL proteins recognize AU-rich elements in the 3' UTRs of gene transcripts and thereby regulate gene expression post-transcriptionally stabilizing mRNA to avoid degradation [72]. It was also shown that circularizing exons were significantly more enriched with RBP binding sites compared to non-circularizing exons [17]. In our study, we found 14 RBP binding motifs enriched in flanking introns of differentially expressed circRNAs with the most promising HNRNPD and ZFP36 significantly correlated with highly expressed circRNAs. In our study, ELAVL2 and ELAVL3 showed a positive correlation with circRNAs enriched in flanking introns with the highest frequency in a region covering 100 nt upstream from the 5’ backsplice junction end. These observations indicate specific circRNA-RBP interactions that might be directly involved in the circRNA processing.

Another protein family that might impact circRNAs expression is CPEB. Both CPEB1 and CPEB3 are downregulated in GBM with U-rich motifs enriched in downregulated circRNAs and show the highest number of positive correlated downregulated circRNAs including validated by us circEPB41L5. We showed, that KHDRBS2 predicted to be involved in alternative splicing [73] is the most downregulated RBPs in GBM and highly correlated with exosome-transmitted circVMP1 which facilitates the progression and cisplatin resistance of non-small cell lung cancer [74] and promotes glycolysis and disease progression in colorectal cancer [75].

Besides the transcriptome-wide characterization of circRNAs and RBPs in GBM and their putative interactions, we extend our analysis to determine differentially expressed circRNAs and RBPs specific for known molecular GBM subtypes. GBM is a heterogeneous disease that can be classified into four known molecular subtypes according to mutation landscape and gene expression pattern [6].

According to the circRNA expression pattern, the neural subtype was the most similar to the healthy brain samples. The RBPs expression analysis revealed the high expression levels of CPEB and ELAVL families in neural GBM samples which are generally downregulated in GBM ([76, 77]. These findings confirm earlier reports that the neural subtype may be non-tumor margins contamination [78-80].

Among GBM subtypes, the mesenchymal one is known as the most aggressive, invasive, and resistant to treatment [81]. We found further that both circCOL4A1 and circCOL1A2 are highly expressed in this subtype. Moreover, circCOL1A2 was previously described as upregulated in gastric cancer enhancing the migration and invasion properties [82] and also promoting angiogenesis in diabetic retinopathy [83, 84], which can make circCOL1A2 a relevant marker of mesenchymal GBM subtype. For the first time, we managed to distinguish new GBM groups based on RBP expression patterns, independent of known molecular subtypes. As mentioned before, potentially involved in circRNAs biogenesis CPEB and ELAVL families stratify GBM into 2 or 3 groups. Altogether, both CPEB and ELAVL families appear to have an impact on the circRNAs.

In conclusion, we provided a comprehensive global-scale analysis of circRNAs and RBPs in glioblastoma based on the patient-derived samples.
Specifically, we established a list of circRNAs differentially expressed in primary GBM tumors, the circRNA progression markers in recurrent GBM samples, but also, indicated a global deregulation of RBP transcripts. Selected circRNAs were further verified experimentally by the qRT-PCR method. Subsequent analysis allowed us to generate a comprehensive catalog of circRNA-RBP interactions regarding both the RBPs sequestration by circRNA as well as the RBPs involvement in circRNA biogenesis. Furthermore, we demonstrated the clinical potential of circRNAs and RBPs in GBM and proposed them as the stratification markers in the de novo assembled tumor subtypes. Moreover, our findings suggest that both circRNAs and RBPs might be considered as clinical markers and tumor-subtyping factors in the future. The list of potential functions of distinct circRNAs as well as the circRNA-RBP interactions is long and their regulatory functions are complex. The mechanism of action and the mutual dependencies await still further in-depth investigation. However, with our comprehensive study, we provide a foundation for future research into the molecular mechanisms and clinical implications of circRNAs and RBPs interactions in glioblastoma.

4. Materials and Methods

4.1 Patients' sample collection

Tumor tissues (n=26; Suppl. Tab. 1) were collected from GBM patients up to one hour after tumor excision. The material was obtained from the Department and Clinic of Neurosurgery and Neurotraumatology of the University of Medical Sciences in Poznan (Poland) and from the Department of Neurosurgery of Multidisciplinary City Hospital in Poznan (Poland). Prior to the surgery, the approval by the Bioethics Council of the Poznan University of Medical Science (Nr. 46/13) and the donors' consent had been obtained. Four commercial samples (purchased from Ambion, Clontech and Takara companies) of pooled human brain (HB) total RNAs were used as healthy brain controls (Suppl. Tab. 2).

4.2 RNA extraction and quality check

Total RNA extraction from GBM patient tissue was performed using TRIzol reagent (Invitrogen) according to the manufacturer's protocol. RNA samples have been subjected to DNase I treatment using a ready-to-use DNA-free™ DNA Removal Kit reagents following the manufacturer's protocol (Ambion). The quality of purified RNA was measured by NanoDrop 2000 spectrophotometer (Thermo Fisher Scientific) followed by agarose gel electrophoresis. RNA integrity was verified on Agilent Bioanalyzer 2100 (Agilent

Technologies). RNA samples with RNA Integrity Number (RIN) at least 7.4 were used for library preparation and RNA-seq analysis (Suppl. Fig. 11, 12).

4.3 Library preparation and RNA sequencing

300 ng of total RNA were ribosomal RNA-depleted using RNase H [23]. Ribosomal RNA-depleted libraries were constructed using Illumina's TruSeq Total RNA Library Prep Kit. Adaptor ligations were performed according to manufacturer's instructions and cDNA fragments were amplified in RT-qPCR for 8-15 cycles. After the purification with AMPure XP beads, the DNA concentration was measured with Qubit (Thermo Fisher Scientific) and the fragments length were defined with Screen Tape Assay Agilent D1000, 4200 Tape Station System. RNA sequencing was performed using Illumina Hi-seq 4000, average of ~73 million of 150 paired-end reads per sample.

4.4 circRNAs identification

Quality control of raw sequencing reads was done with FastQC (https://www.bioinformatics.babraham.ac.uk/projects/fastqc/). Next, the adapters were removed using Trimmomatic [85], version 0.38 with the following parameters ILLUMINACLIP:2:30:10 SLIDINGWINDOW:10:25 MINLEN:35. After adapter trimming, a second quality check with FastQC was performed. A genomic index was created for GRCh37 human genome obtained from Gencode using Burrows-Wheeler aligner [86], version 0.7.17 (bwa –bwtsw). Then, reads were mapped with the following parameters: bwa-mem –T 19. CircRNAs were detected from alignment files with CIRI [87], version 2.0.6 using default parameters. CircRNAs annotation and differential expression analysis was performed using circMeta R package [88]. The edgeR [89] method was used for differential expression (DE) analysis. Heatmaps were prepared using the pheatmap R package and data normalized using Trimmede Mean of M-values (TMM) method from edgeR R package [89].

Gene Set Enrichment Analysis (GSEA), including Gene Onthology (GO) and Kyoto Encyclopedia of Genes & Genomes (KEGG) was performed using clusterProfiler R package [90] and IDs for linear transcripts ranked by circRNA log2 fold change between GBM and HB samples. In case of multiple circRNAs originating from one gene, mean log2 fold change was used. For both GO and KEGG, the following set of parameters was used: nPerm = 10000, minGSSize = 3, maxGSSize = 800, pvalueCutoff = 0.05, pAdjustMethod = "fdr".

Data were visualized using the ggplot2 R package. Most of the analysis was done in R 4.1.3, except for KEGG enrichment for GSEA, which was prepared in R 3.6.1.

4.5 RBPs identification

To identify RBPs differentially expressed between HB and GBM samples, trimmed reads were mapped to the human genome (GRCh37 v30 from Gencode) using Burrows-Wheeler aligner [86], version 0.7.17, followed by mapping sequencing reads to genomic features using featureCounts function from Rsubread package with useMetaFeatures option and without counting multimapping and multi-overlapping reads. Differential gene expression analysis was performed using edgeR glmQLFTest [89]. RBPs were selected from differentially expressed genes based on the human RBP list, obtained from Gerstberger et al., 2014 [30].

4.6 circRNAs-RBPs interactions

To identify putative RBPs binding sites in differentially expressed circRNA, first, circRNA sequences were extracted using FcircSEC [91] followed by k-mer enrichment analysis

between differentially expressed and non-differentially expressed circRNAs. K-mer enrichment analysis was performed with k = 6, using kmer_compare function from the FeatureReachR package. Then 6-mers enriched in differentially expressed circRNAs were mapped to the RBPs binding sites determined either by eCLIP [35] or by RNA bind and Seq experiments [25], using estimate_motif_from_kmer function from FeatureReachR and CISBPRNA_hs or RBNS position weighted matrices lists, respectively. Significantly enriched RBP binding motifs (adjusted p value <0.1) were visualized using ggseqlogo R package [92]. Analysis was then repeated for circRNA flanking regions (1000 nt flanks).

Correlation of expression of RBPs, which were differentially expressed between HB and GBM samples, and their binding motifs enriched in differentially expressed circRNA, was estimated with differentially expressed circRNA expression using cor.test function from R with Spearman rank correlation option. The Upset plot was prepared using the UpSetR package [93].

4.7 GBM subtypes analysis based on circRNAs

Raw sequencing data were subjected to the quality check using FastQC tool. The adaptors were trimmed and the reads were filtered to eliminate the low-sequencing-quality bases using Trimmomatic [85]. Furthermore, the RNA-seq reads were mapped to the human reference transcriptome (ENSEMBLE V.102) to quantify the expression level of the transcripts. The transcript-level estimates were summarized and associated with the gene IDs for gene-level analysis using tximport [94]. For the samples categorization we used genes indicated in TCGA GBM dataset and other genes that have been found to be significant for GBM molecular subtyping including *SLC12A5*, *SYT1*, *GABRA1*, *NEFL*, *CDKN1A*, *NF1*, *MET*, *PDGFRA*, *BOP1*, *ILR4* were included. CircRNAs differentially expressed within the subtypes were identified using circMeta R package [88] with edgeR [89] method for differential circRNAs expression (DCE).

4.8 GBM samples stratification based on RBPs expression

GBM samples stratification according to RBPs expression changes was performed using the CircIMPACT workflow [95]. At first, we subset RBPs able to discretize patients into two clusters according to their expression with no significant association with GBM molecular subtypes (χ^2 test, p-value > 0.01). We clustered patients in novel subgroups linked by common RBPs pattern expression. The unsupervised clustering was performed using the k-means algorithm with euclidean distance and automatic selection of the optimal number of k clusters of patients using the silhouette index. Finally, we tested which RBPs reach significant estimates of the expression changes between previously defined clusters (one-way ANOVA test p-values ≤ 0.05). After correction for multiple tests, the RBPs with significant expression variation were used to compose the list of discriminant RBPs for the corresponding sample clustering.

4.9 Survival analysis

Survival analysis was performed on the GBM dataset from TCGA. Log2 transformed HTseq counts were downloaded using UCSC Xena tool [96]. Log2 transformation was reversed and raw reads were normalized using TMM method from edgeR R library [89]. Then differentially expressed RBPs were selected (listed in Suppl. Tab. 8) and for each RBP quartile normalization was applied. Samples belonging to Q1 were marked as ‘low’, Q2 and Q3 - ‘medium’ and Q4 - ‘high’. Survival analysis was performed using survival and survminer R libraries between samples with ‘low’ and ‘high’ expression levels. Log-rank

(Mantel-Haenszel) test was used to assess statistical significance (p value < 0.05). Data were visualized using ggsurvplot function from survminer library.

4.10 Reverse transcription and quantitative RT-qPCR

The reverse transcription reaction was proceeded using the Transcriptor High Fidelity cDNA Synthesis Kit (Roche) according to the manufacturer's protocol. 500 ng of total RNA extracted from patient-derived tissues was used. The real-time qPCR reaction was performed using the CFX Connect Real-Time PCR Detection System (Bio-Rad) on the 96-well plates recommended by the manufacturer. Each sample was run in three technical replicates. RT-qPCR analysis was performed with LightCycler® 480 SYBR Green I Master (Roche) and primers designed using the Primer-BLAST tool [97] and purchased from Thermo Fisher Scientific. Primers' sequences are listed in the Suppl. Tab. 9. The expression level of the studied genes was calculated inCFX Maestro 2.0 software. Hypoxanthine phosphoribosyltransferase (*HPRT*) was used as an endogenous control for calculating the expression levels of selected genes. As control, commercially available RNA from HB tissues was used (Suppl. Tab. 2).

4.11 RNase R treatment

2 μg of total RNA were treated with 4U of RNase R (Lucigen) at 37°C for 5 or 10 minutes in case of downregulated and at 37°C for 30 minutes for upregulated circRNAs followed by 20 minutes at 65°C. Next, total RNA was purified using NucAway Spin Columns (Invitrogen) and reverse transcribed with the Transcriptor High Fidelity cDNA Synthesis Kit (Roche) according to the manufacturer's protocol. Then, PCR was performed with 35 cycles (15s denaturation at 95°C followed by 30s at the optimum annealing temperature for each pair of primers (Suppl. Tab. 9) and 20s extension) with a prior 3-minute denaturation. The depletion of linear RNA was confirmed by running the PCR products on agarose gel.

4.12 Statistical analysis of the results

Each experiment was performed in three biological replicates including three technical replicates each. Statistical significance of the differences observed in experimental data was calculated in R, using t-test (stat_compare_means function). P-values are presented in plots.

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6. Authors Contribution

Conceptualization, JLŁ, ZZ, MPS, KK. JOM, AG and KR; Sample collection, RP, and AMB; Formal analysis, JLŁ, ZZ, MPS, JOM, AG, KK, AB, MZ, JK, AR-W and KR; Investigation, JLŁ, ZZ, MPS, KK, AG, AB and KR; Methodology, JLŁ, ZZ, MPS, AB, SB, AR-W and MZ; Resources, KR, NR; Supervision, KR; Funding acquisition, KR; Visualization, MPS, AB; Writing - original draft, JLŁ, ZZ, MPS, JOM; Writing - review & editing, JLŁ, ZZ, MPS, JOM, AG, KK, AB, SB, AR-W, and KR. All authors have read and approved the final version of the manuscript.

7. Conflict of Interest

The authors declare no conflict of interest.

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9. Ethics approval and consent to participate

The GBM samples (n = 26) were obtained from the Clinic of Neurosurgery and Neurotraumatology, Karol Marcinkowski University of Medical Sciences in Poznan, Poland, and Department of Neurosurgery, Jozef Strus Hospital in Poznan, Poland during 2015-2020 based on the approval from the Ethical Committee (Nr. 46/13), and individuals signed an informed consent form.

10. Data availability

Sequencing data have been deposited in NCBI GEO repository under accession code GSE196695. Scripts used for data analysis and processed data are available at https://github.com/MSajek/GBM_circs.

11. References

1. Gusyatiner, O. & Hegi, M. E. (2018) Glioma epigenetics: From subclassification to novel treatment options, *Semin Cancer Biol.* **51**, 50-58.
2. Stupp, R., Mason, W. P., van den Bent, M. J., Weller, M., Fisher, B., Taphoorn, M. J., Belanger, K., Brandes, A. A., Marosi, C., Bogdahn, U., Curschmann, J., Janzer, R. C., Ludwin, S. K., Gorlia, T., Allgeier, A., Lacombe, D., Cairncross, J. G., Eisenhauer, E., Mirimanoff, R. O., European Organisation for, R., Treatment of Cancer Brain, T., Radiotherapy, G. & National Cancer Institute of Canada Clinical Trials, G. (2005) Radiotherapy plus concomitant and adjuvant temozolomide for glioblastoma, *N Engl J Med.* **352**, 987-96.
3. Fernandes, C., Costa, A., Osorio, L., Lago, R. C., Linhares, P., Carvalho, B. & Caeiro, C. (2017) Current Standards of Care in Glioblastoma Therapy in *Glioblastoma* (De Vleeschouwer, S., ed), Brisbane (AU).
4. Yan, H., Parsons, D. W., Jin, G., McLendon, R., Rasheed, B. A., Yuan, W., Kos, I., Batinic-Haberle, I., Jones, S., Riggins, G. J., Friedman, H., Friedman, A., Reardon, D., Herndon, J., Kinzler, K. W., Velculescu, V. E., Vogelstein, B. & Bigner, D. D. (2009) IDH1 and IDH2 mutations in gliomas, *N Engl J Med.* **360**, 765-73.
5. Han, S., Liu, Y., Cai, S. J., Qian, M., Ding, J., Larion, M., Gilbert, M. R. & Yang, C. (2020) IDH mutation in glioma: molecular mechanisms and potential therapeutic targets, *Br J Cancer.* **122**, 1580-1589.
6. Verhaak, R. G., Hoadley, K. A., Purdom, E., Wang, V., Qi, Y., Wilkerson, M. D., Miller, C. R., Ding, L., Golub, T., Mesirov, J. P., Alexe, G., Lawrence, M., O'Kelly, M., Tamayo, P., Weir, B. A., Gabriel, S., Winckler, W., Gupta, S., Jakkula, L., Feiler, H. S., Hodgson, J. G., James, C. D., Sarkaria, J. N., Brennan, C., Kahn, A., Spellman, P. T., Wilson, R. K., Speed, T. P., Gray, J. W., Meyerson, M., Getz, G., Perou, C. M., Hayes, D. N. & Cancer Genome Atlas Research, N. (2010) Integrated genomic analysis identifies clinically relevant subtypes of

glioblastoma characterized by abnormalities in PDGFRA, IDH1, EGFR, and NF1, *Cancer Cell.* **17**, 98-110.
7. Zhang, X. O., Dong, R., Zhang, Y., Zhang, J. L., Luo, Z., Zhang, J., Chen, L. L. & Yang, L. (2016) Diverse alternative back-splicing and alternative splicing landscape of circular RNAs, *Genome Res.* **26**, 1277-87.
8. Enuka, Y., Lauriola, M., Feldman, M. E., Sas-Chen, A., Ulitsky, I. & Yarden, Y. (2016) Circular RNAs are long-lived and display only minimal early alterations in response to a growth factor, *Nucleic Acids Res.* **44**, 1370-83.
9. Li, Z., Huang, C., Bao, C., Chen, L., Lin, M., Wang, X., Zhong, G., Yu, B., Hu, W., Dai, L., Zhu, P., Chang, Z., Wu, Q., Zhao, Y., Jia, Y., Xu, P., Liu, H. & Shan, G. (2015) Exon-intron circular RNAs regulate transcription in the nucleus, *Nat Struct Mol Biol.* **22**, 256-64.
10. Zang, X., Jiang, J., Gu, J., Chen, Y., Wang, M., Zhang, Y., Fu, M., Shi, H., Cai, H., Qian, H., Xu, W. & Zhang, X. (2022) Circular RNA EIF4G3 suppresses gastric cancer progression through inhibition of beta-catenin by promoting delta-catenin ubiquitin degradation and upregulating SIK1, *Mol Cancer.* **21**, 141.
11. Li, X., Wang, J., Zhang, C., Lin, C., Zhang, J., Zhang, W., Zhang, W., Lu, Y., Zheng, L. & Li, X. (2018) Circular RNA circITGA7 inhibits colorectal cancer growth and metastasis by modulating the Ras pathway and upregulating transcription of its host gene ITGA7, *J Pathol.* **246**, 166-179.
12. Abdelmohsen, K., Panda, A. C., Munk, R., Grammatikakis, I., Dudekula, D. B., De, S., Kim, J., Noh, J. H., Kim, K. M., Martindale, J. L. & Gorospe, M. (2017) Identification of HuR target circular RNAs uncovers suppression of PABPN1 translation by CircPABPN1, *RNA Biol.* **14**, 361-369.
13. Xia, B., Hong, T., He, X., Hu, X. & Gao, Y. (2019) A circular RNA derived from MMP9 facilitates oral squamous cell carcinoma metastasis through regulation of MMP9 mRNA stability, *Cell Transplant.* **28**, 1614-1623.
14. Wu, N., Yuan, Z., Du, K. Y., Fang, L., Lyu, J., Zhang, C., He, A., Eshaghi, E., Zeng, K., Ma, J., Du, W. W. & Yang, B. B. (2019) Translation of yes-associated protein (YAP) was antagonized by its circular RNA via suppressing the assembly of the translation initiation machinery, *Cell Death Differ.* **26**, 2758-2773.
15. Liu, Y., Song, J., Liu, Y., Zhou, Z. & Wang, X. (2020) Transcription activation of circ-STAT3 induced by Gli2 promotes the progression of hepatoblastoma via acting as a sponge for miR-29a/b/c-3p to upregulate STAT3/Gli2, *J Exp Clin Cancer Res.* **39**, 101.
16. Zhao, X., Cai, Y. & Xu, J. (2019) Circular RNAs: Biogenesis, Mechanism, and Function in Human Cancers, *Int J Mol Sci.* **20**.
17. Okholm, T. L. H., Sathe, S., Park, S. S., Kamstrup, A. B., Rasmussen, A. M., Shankar, A., Chua, Z. M., Fristrup, N., Nielsen, M. M., Vang, S., Dyrskjot, L., Aigner, S., Damgaard, C. K., Yeo, G. W. & Pedersen, J. S. (2020) Transcriptome-wide profiles of circular RNA and RNA-binding protein interactions reveal effects on circular RNA biogenesis and cancer pathway expression, *Genome Med.* **12**, 112.
18. Kong, P., Yu, Y., Wang, L., Dou, Y. Q., Zhang, X. H., Cui, Y., Wang, H. Y., Yong, Y. T., Liu, Y. B., Hu, H. J., Cui, W., Sun, S. G., Li, B. H., Zhang, F. & Han, M. (2019) circ-Sirt1 controls NF-kappaB activation via sequence-specific interaction and enhancement of SIRT1 expression by binding to miR-132/212 in vascular smooth muscle cells, *Nucleic Acids Res.* **47**, 3580-3593.
19. Su, H., Tao, T., Yang, Z., Kang, X., Zhang, X., Kang, D., Wu, S. & Li, C. (2019) Circular RNA cTFRC acts as the sponge of MicroRNA-107 to promote bladder carcinoma progression, *Mol Cancer.* **18**, 27.

20. Ou, R., Mo, L., Tang, H., Leng, S., Zhu, H., Zhao, L., Ren, Y. & Xu, Y. (2020) circRNA-AKT1 Sequesters miR-942-5p to Upregulate AKT1 and Promote Cervical Cancer Progression, *Mol Ther Nucleic Acids.* **20**, 308-322.
21. Das, A., Shyamal, S., Sinha, T., Mishra, S. S. & Panda, A. C. (2021) Identification of Potential circRNA-microRNA-mRNA Regulatory Network in Skeletal Muscle, *Front Mol Biosci.* **8**, 762185.
22. Bai, S., Wu, Y., Yan, Y., Shao, S., Zhang, J., Liu, J., Hui, B., Liu, R., Ma, H., Zhang, X. & Ren, J. (2020) Construct a circRNA/miRNA/mRNA regulatory network to explore potential pathogenesis and therapy options of clear cell renal cell carcinoma, *Sci Rep.* **10**, 13659.
23. Piwecka, M., Glazar, P., Hernandez-Miranda, L. R., Memczak, S., Wolf, S. A., Rybak-Wolf, A., Filipchyk, A., Klironomos, F., Cerda Jara, C. A., Fenske, P., Trimbuch, T., Zywitza, V., Plass, M., Schreyer, L., Ayoub, S., Kocks, C., Kuhn, R., Rosenmund, C., Birchmeier, C. & Rajewsky, N. (2017) Loss of a mammalian circular RNA locus causes miRNA deregulation and affects brain function, *Science.* **357**.
24. Verduci, L., Strano, S., Yarden, Y. & Blandino, G. (2019) The circRNA-microRNA code: emerging implications for cancer diagnosis and treatment, *Mol Oncol.* **13**, 669-680.
25. Dominguez, D., Freese, P., Alexis, M. S., Su, A., Hochman, M., Palden, T., Bazile, C., Lambert, N. J., Van Nostrand, E. L., Pratt, G. A., Yeo, G. W., Graveley, B. R. & Burge, C. B. (2018) Sequence, Structure, and Context Preferences of Human RNA Binding Proteins, *Mol Cell.* **70**, 854-867 e9.
26. Jeck, W. R., Sorrentino, J. A., Wang, K., Slevin, M. K., Burd, C. E., Liu, J., Marzluff, W. F. & Sharpless, N. E. (2013) Circular RNAs are abundant, conserved, and associated with ALU repeats, *RNA.* **19**, 141-57.
27. Yu, C. Y. & Kuo, H. C. (2019) The emerging roles and functions of circular RNAs and their generation, *J Biomed Sci.* **26**, 29.
28. Ebbesen, K. K., Hansen, T. B. & Kjems, J. (2017) Insights into circular RNA biology, *RNA Biol.* **14**, 1035-1045.
29. Wilusz, J. E. (2018) A 360 degrees view of circular RNAs: From biogenesis to functions, *Wiley Interdiscip Rev RNA.* **9**, e1478.
30. Gerstberger, S., Hafner, M. & Tuschl, T. (2014) A census of human RNA-binding proteins, *Nat Rev Genet.* **15**, 829-45.
31. Chen, L. L. (2016) The biogenesis and emerging roles of circular RNAs, *Nat Rev Mol Cell Biol.* **17**, 205-11.
32. Conn, S. J., Pillman, K. A., Toubia, J., Conn, V. M., Salmanidis, M., Phillips, C. A., Roslan, S., Schreiber, A. W., Gregory, P. A. & Goodall, G. J. (2015) The RNA binding protein quaking regulates formation of circRNAs, *Cell.* **160**, 1125-34.
33. Huang, A., Zheng, H., Wu, Z., Chen, M. & Huang, Y. (2020) Circular RNA-protein interactions: functions, mechanisms, and identification, *Theranostics.* **10**, 3503-3517.
34. Das, A., Sinha, T., Shyamal, S. & Panda, A. C. (2021) Emerging Role of Circular RNA-Protein Interactions, *Noncoding RNA.* **7**.
35. Van Nostrand, E. L., Freese, P., Pratt, G. A., Wang, X., Wei, X., Xiao, R., Blue, S. M., Chen, J. Y., Cody, N. A. L., Dominguez, D., Olson, S., Sundararaman, B., Zhan, L., Bazile, C., Bouvrette, L. P. B., Bergalet, J., Duff, M. O., Garcia, K. E., Gelboin-Burkhart, C., Hochman, M., Lambert, N. J., Li, H., McGurk, M. P., Nguyen, T. B., Palden, T., Rabano, I., Sathe, S., Stanton, R., Su, A., Wang, R., Yee, B. A., Zhou, B., Louie, A. L., Aigner, S., Fu, X. D., Lecuyer, E., Burge, C. B., Graveley, B. R. & Yeo, G. W. (2020) A large-scale binding and functional map of human RNA-binding proteins, *Nature.* **583**, 711-719.
36. Rybak-Wolf, A., Stottmeister, C., Glazar, P., Jens, M., Pino, N., Giusti, S., Hanan, M., Behm, M., Bartok, O., Ashwal-Fluss, R., Herzog, M., Schreyer, L., Papavasileiou, P., Ivanov,

A., Ohman, M., Refojo, D., Kadener, S. & Rajewsky, N. (2015) Circular RNAs in the Mammalian Brain Are Highly Abundant, Conserved, and Dynamically Expressed, *Mol Cell.* **58**, 870-85.
37. Chen, W. & Schuman, E. (2016) Circular RNAs in Brain and Other Tissues: A Functional Enigma, *Trends Neurosci.* **39**, 597-604.
38. Wu, W., Zhang, J., Cao, X., Cai, Z. & Zhao, F. (2022) Exploring the cellular landscape of circular RNAs using full-length single-cell RNA sequencing, *Nat Commun.* **13**, 3242.
39. Guo, X. & Piao, H. (2021) Research Progress of circRNAs in Glioblastoma, *Front Cell Dev Biol.* **9**, 791892.
40. Xu, S., Luo, C., Chen, D., Tang, L., Chen, L. & Liu, Z. (2022) Whole transcriptome and proteome analyses identify potential targets and mechanisms underlying tumor treating fields against glioblastoma, *Cell Death Dis.* **13**, 721.
41. Bronisz, A., Rooj, A. K., Krawczynski, K., Peruzzi, P., Salinska, E., Nakano, I., Purow, B., Chiocca, E. A. & Godlewski, J. (2020) The nuclear DICER-circular RNA complex drives the deregulation of the glioblastoma cell microRNAome, *Sci Adv.* **6**.
42. Zhao, L., Zhang, P., Nan, Y., Ren, B., Ma, H., Xie, J. & Huang, Q. (2022) Bioinformatics analysis of potential glioblastoma circular RNA sponge network, *Transl Cancer Res.* **11**, 1017-1032.
43. Zhu, J., Ye, J., Zhang, L., Xia, L., Hu, H., Jiang, H., Wan, Z., Sheng, F., Ma, Y., Li, W., Qian, J. & Luo, C. (2017) Differential Expression of Circular RNAs in Glioblastoma Multiforme and Its Correlation with Prognosis, *Transl Oncol.* **10**, 271-279.
44. Wang, C., Liu, W. R., Tan, S., Zhou, J. K., Xu, X., Ming, Y., Cheng, J., Li, J., Zeng, Z., Zuo, Y., He, J., Peng, Y. & Li, W. (2022) Characterization of distinct circular RNA signatures in solid tumors, *Mol Cancer.* **21**, 63.
45. Vo, J. N., Cieslik, M., Zhang, Y., Shukla, S., Xiao, L., Zhang, Y., Wu, Y. M., Dhanasekaran, S. M., Engelke, C. G., Cao, X., Robinson, D. R., Nesvizhskii, A. I. & Chinnaiyan, A. M. (2019) The Landscape of Circular RNA in Cancer, *Cell.* **176**, 869-881 e13.
46. Xuan, L., Qu, L., Zhou, H., Wang, P., Yu, H., Wu, T., Wang, X., Li, Q., Tian, L., Liu, M. & Sun, Y. (2016) Circular RNA: a novel biomarker for progressive laryngeal cancer, *Am J Transl Res.* **8**, 932-9.
47. Zheng, Q., Bao, C., Guo, W., Li, S., Chen, J., Chen, B., Luo, Y., Lyu, D., Li, Y., Shi, G., Liang, L., Gu, J., He, X. & Huang, S. (2016) Circular RNA profiling reveals an abundant circHIPK3 that regulates cell growth by sponging multiple miRNAs, *Nat Commun.* **7**, 11215.
48. Li, Z., Chen, Z., Hu, G. & Jiang, Y. (2019) Roles of circular RNA in breast cancer: present and future, *Am J Transl Res.* **11**, 3945-3954.
49. Bachmayr-Heyda, A., Reiner, A. T., Auer, K., Sukhbaatar, N., Aust, S., Bachleitner-Hofmann, T., Mesteri, I., Grunt, T. W., Zeillinger, R. & Pils, D. (2015) Correlation of circular RNA abundance with proliferation--exemplified with colorectal and ovarian cancer, idiopathic lung fibrosis, and normal human tissues, *Sci Rep.* **5**, 8057.
50. Gruner, H., Cortes-Lopez, M., Cooper, D. A., Bauer, M. & Miura, P. (2016) CircRNA accumulation in the aging mouse brain, *Sci Rep.* **6**, 38907.
51. Westholm, J. O., Miura, P., Olson, S., Shenker, S., Joseph, B., Sanfilippo, P., Celniker, S. E., Graveley, B. R. & Lai, E. C. (2014) Genome-wide analysis of drosophila circular RNAs reveals their structural and sequence properties and age-dependent neural accumulation, *Cell Rep.* **9**, 1966-1980.
52. Cortes-Lopez, M., Gruner, M. R., Cooper, D. A., Gruner, H. N., Voda, A. I., van der Linden, A. M. & Miura, P. (2018) Global accumulation of circRNAs during aging in Caenorhabditis elegans, *BMC Genomics.* **19**, 8.
53. Buratin, A., Paganin, M., Gaffo, E., Dal Molin, A., Roels, J., Germano, G., Siddi, M. T., Serafin, V., De Decker, M., Gachet, S., Durinck, K., Speleman, F., Taghon, T., Te Kronnie,

G., Van Vlierberghe, P. & Bortoluzzi, S. (2020) Large-scale circular RNA deregulation in T-ALL: unlocking unique ectopic expression of molecular subtypes, *Blood Adv.* **4**, 5902-5914.
54. Zatzman, M., Fuligni, F., Ripsman, R., Suwal, T., Comitani, F., Edward, L. M., Denroche, R., Jang, G. H., Notta, F., Gallinger, S., Selvanathan, S. P., Toretsky, J. A., Hellmann, M. D., Tabori, U., Huang, A. & Shlien, A. (2022) Widespread hypertranscription in aggressive human cancers, *Sci Adv.* **8**, eabn0238.
55. Liang, D., Tatomer, D. C., Luo, Z., Wu, H., Yang, L., Chen, L. L., Cherry, S. & Wilusz, J. E. (2017) The Output of Protein-Coding Genes Shifts to Circular RNAs When the Pre-mRNA Processing Machinery Is Limiting, *Mol Cell.* **68**, 940-954 e3.
56. Qian, L., Guan, J., Wu, Y. & Wang, Q. (2019) Upregulated circular RNA circ_0074027 promotes glioblastoma cell growth and invasion by regulating miR-518a-5p/IL17RD signaling pathway, *Biochem Biophys Res Commun.* **510**, 515-519.
57. Lv, T., Miao, Y., Xu, T., Sun, W., Sang, Y., Jia, F. & Zhang, X. (2020) Circ-EPB41L5 regulates the host gene EPB41L5 via sponging miR-19a to repress glioblastoma tumorigenesis, *Aging (Albany NY).* **12**, 318-339.
58. Yang, L., Zhou, Y. N., Zeng, M. M., Zhou, N., Wang, B. S., Li, B., Zhu, X. L., Guan, Q. L. & Chai, C. (2021) Circular RNA Circ-0002570 Accelerates Cancer Progression by Regulating VCAN via MiR-587 in Gastric Cancer, *Front Oncol.* **11**, 733745.
59. Zhu, C., Mao, X. & Zhao, H. (2020) The circ_VCAN with radioresistance contributes to the carcinogenesis of glioma by regulating microRNA-1183, *Medicine (Baltimore).* **99**, e19171.
60. Song, X., Zhang, N., Han, P., Moon, B. S., Lai, R. K., Wang, K. & Lu, W. (2016) Circular RNA profile in gliomas revealed by identification tool UROBORUS, *Nucleic Acids Res.* **44**, e87.
61. Li, Y. & Ma, H. (2022) circRNA PLOD2 promotes tumorigenesis and Warburg effect in colon cancer by the miR-513a-5p/SIX1/LDHA axis, *Cell Cycle.* **21**, 2484-2498.
62. Brown, J. R. & Chinnaiyan, A. M. (2020) The Potential of Circular RNAs as Cancer Biomarkers, *Cancer Epidemiol Biomarkers Prev.* **29**, 2541-2555.
63. Di Liddo, A., de Oliveira Freitas Machado, C., Fischer, S., Ebersberger, S., Heumuller, A. W., Weigand, J. E., Muller-McNicoll, M. & Zarnack, K. (2019) A combined computational pipeline to detect circular RNAs in human cancer cells under hypoxic stress, *J Mol Cell Biol.* **11**, 829-844.
64. Zhang, X., Zhang, Y., Zhao, J., Wu, Y., Zhang, N. & Shen, W. (2023) ARID1A mutations in cancer development: mechanism and therapy, *Carcinogenesis.* **44**, 197-208.
65. Xu, S. & Tang, C. (2021) The Role of ARID1A in Tumors: Tumor Initiation or Tumor Suppression?, *Front Oncol.* **11**, 745187.
66. Ma, J., Chen, C., Fan, Z., Zhang, Y., Ji, J., Wei, D., Zhang, F., Sun, B., Huang, P. & Ren, L. (2023) CircEGFR reduces the sensitivity of pirarubicin and regulates the malignant progression of triple-negative breast cancer via the miR-1299/EGFR axis, *Int J Biol Macromol.* **244**, 125295.
67. Fu, P., Lin, L., Zhou, H., Zhao, S. & Jie, Z. (2021) Circular RNA circEGFR regulates tumor progression via the miR-106a-5p/DDX5 axis in colorectal cancer, *Braz J Med Biol Res.* **54**, e10940.
68. Guo, Q., Guo, J., Liu, W., Hu, S., Hu, X., Wang, Q. & Jiang, X. (2022) Circ-EGFR Functions as an Inhibitory Factor in the Malignant Progression of Glioma by Regulating the miR-183-5p/TUSC2 Axis, *Cell Mol Neurobiol.* **42**, 2245-2256.
69. Zhou, Z., Zheng, X., Mei, X., Li, W., Qi, S., Deng, Y. & Lei, B. (2021) Hsa_circ_0080229 upregulates the expression of murine double minute-2 (MDM2) and promotes glioma tumorigenesis and invasion via the miR-1827 sponging mechanism, *Ann Transl Med.* **9**, 762.

70. Du, W. W., Yang, W., Liu, E., Yang, Z., Dhaliwal, P. & Yang, B. B. (2016) Foxo3 circular RNA retards cell cycle progression via forming ternary complexes with p21 and CDK2, *Nucleic Acids Res.* **44**, 2846-58.
71. Yang, E., van Nimwegen, E., Zavolan, M., Rajewsky, N., Schroeder, M., Magnasco, M. & Darnell, J. E., Jr. (2003) Decay rates of human mRNAs: correlation with functional characteristics and sequence attributes, *Genome Res.* **13**, 1863-72.
72. Peng, S. S., Chen, C. Y., Xu, N. & Shyu, A. B. (1998) RNA stabilization by the AU-rich element binding protein, HuR, an ELAV protein, *EMBO J.* **17**, 3461-70.
73. Wu, Q., Feng, L., Wang, Y., Mao, Y., Di, X., Zhang, K., Cheng, S. & Xiao, T. (2022) Multi-omics analysis reveals RNA splicing alterations and their biological and clinical implications in lung adenocarcinoma, *Signal Transduct Target Ther.* **7**, 270.
74. Xie, H., Yao, J., Wang, Y. & Ni, B. (2022) Exosome-transmitted circVMP1 facilitates the progression and cisplatin resistance of non-small cell lung cancer by targeting miR-524-5p-METTL3/SOX2 axis, *Drug Deliv.* **29**, 1257-1271.
75. Chen, H. Y., Li, X. N., Yang, L., Ye, C. X., Chen, Z. L. & Wang, Z. J. (2024) CircVMP1 promotes glycolysis and disease progression by upregulating HKDC1 in colorectal cancer, *Environ Toxicol.* **39**, 1617-1630.
76. Kozlov, E., Shidlovskii, Y. V., Gilmutdinov, R., Schedl, P. & Zhukova, M. (2021) The role of CPEB family proteins in the nervous system function in the norm and pathology, *Cell Biosci.* **11**, 64.
77. Pascale, A., Amadio, M. & Quattrone, A. (2008) Defining a neuron: neuronal ELAV proteins, *Cell Mol Life Sci.* **65**, 128-40.
78. Mao, X. G., Xue, X. Y., Wang, L., Lin, W. & Zhang, X. (2022) Deep learning identified glioblastoma subtypes based on internal genomic expression ranks, *BMC Cancer.* **22**, 86.
79. Wang, Q., Hu, B., Hu, X., Kim, H., Squatrito, M., Scarpace, L., deCarvalho, A. C., Lyu, S., Li, P., Li, Y., Barthel, F., Cho, H. J., Lin, Y. H., Satani, N., Martinez-Ledesma, E., Zheng, S., Chang, E., Sauve, C. G., Olar, A., Lan, Z. D., Finocchiaro, G., Phillips, J. J., Berger, M. S., Gabrusiewicz, K. R., Wang, G., Eskilsson, E., Hu, J., Mikkelsen, T., DePinho, R. A., Muller, F., Heimberger, A. B., Sulman, E. P., Nam, D. H. & Verhaak, R. G. W. (2017) Tumor Evolution of Glioma-Intrinsic Gene Expression Subtypes Associates with Immunological Changes in the Microenvironment, *Cancer Cell.* **32**, 42-56 e6.
80. Gill, B. J., Pisapia, D. J., Malone, H. R., Goldstein, H., Lei, L., Sonabend, A., Yun, J., Samanamud, J., Sims, J. S., Banu, M., Dovas, A., Teich, A. F., Sheth, S. A., McKhann, G. M., Sisti, M. B., Bruce, J. N., Sims, P. A. & Canoll, P. (2014) MRI-localized biopsies reveal subtype-specific differences in molecular and cellular composition at the margins of glioblastoma, *Proc Natl Acad Sci U S A.* **111**, 12550-5.
81. Zhang, P., Xia, Q., Liu, L., Li, S. & Dong, L. (2020) Current Opinion on Molecular Characterization for GBM Classification in Guiding Clinical Diagnosis, Prognosis, and Therapy, *Front Mol Biosci.* **7**, 562798.
82. Li, H., Chai, L., Ding, Z. & He, H. (2022) CircCOL1A2 Sponges MiR-1286 to Promote Cell Invasion and Migration of Gastric Cancer by Elevating Expression of USP10 to Downregulate RFC2 Ubiquitination Level, *J Microbiol Biotechnol.* **32**, 938-948.
83. Zou, J., Liu, K. C., Wang, W. P. & Xu, Y. (2020) Circular RNA COL1A2 promotes angiogenesis via regulating miR-29b/VEGF axis in diabetic retinopathy, *Life Sci.* **256**, 117888.
84. Cao, H., Xu, X., Wang, K. & Li, C. (2022) Down-Regulation of circCOL1A2 Suppresses the Dysfunction of Diabetes-Related Retinal Microvascular Endothelial Cells via miR-646/FGF7 Axis, *Curr Eye Res.* **47**, 1525-1533.
85. Bolger, A. M., Lohse, M. & Usadel, B. (2014) Trimmomatic: a flexible trimmer for Illumina sequence data, *Bioinformatics.* **30**, 2114-20.

86. Li, H. (2014) Toward better understanding of artifacts in variant calling from high-coverage samples, *Bioinformatics.* **30**, 2843-51.
87. Gao, Y., Wang, J. & Zhao, F. (2015) CIRI: an efficient and unbiased algorithm for de novo circular RNA identification, *Genome Biol.* **16**, 4.
88. Chen, L., Wang, F., Bruggeman, E. C., Li, C. & Yao, B. (2020) circMeta: a unified computational framework for genomic feature annotation and differential expression analysis of circular RNAs, *Bioinformatics.* **36**, 539-545.
89. Robinson, M. D., McCarthy, D. J. & Smyth, G. K. (2010) edgeR: a Bioconductor package for differential expression analysis of digital gene expression data, *Bioinformatics.* **26**, 139-40.
90. Yu, G., Wang, L. G., Han, Y. & He, Q. Y. (2012) clusterProfiler: an R package for comparing biological themes among gene clusters, *OMICS.* **16**, 284-7.
91. Hossain, M. T., Peng, Y., Feng, S. & Wei, Y. (2020) FcircSEC: An R Package for Full Length circRNA Sequence Extraction and Classification, *Int J Genomics.* **2020**, 9084901.
92. Wagih, O. (2017) ggseqlogo: a versatile R package for drawing sequence logos, *Bioinformatics.* **33**, 3645-3647.
93. Conway, J. R., Lex, A. & Gehlenborg, N. (2017) UpSetR: an R package for the visualization of intersecting sets and their properties, *Bioinformatics.* **33**, 2938-2940.
94. Soneson, C., Love, M. I. & Robinson, M. D. (2015) Differential analyses for RNA-seq: transcript-level estimates improve gene-level inferences, *F1000Res.* **4**, 1521.
95. Buratin, A., Gaffo, E., Dal Molin, A. & Bortoluzzi, S. (2021) CircIMPACT: An R Package to Explore Circular RNA Impact on Gene Expression and Pathways, *Genes (Basel).* **12**.
96. Goldman, M. J., Craft, B., Hastie, M., Repecka, K., McDade, F., Kamath, A., Banerjee, A., Luo, Y., Rogers, D., Brooks, A. N., Zhu, J. & Haussler, D. (2020) Visualizing and interpreting cancer genomics data via the Xena platform, *Nat Biotechnol.* **38**, 675-678.
97. Ye, J., Coulouris, G., Zaretskaya, I., Cutcutache, I., Rozen, S. & Madden, T. L. (2012) Primer-BLAST: a tool to design target-specific primers for polymerase chain reaction, *BMC Bioinformatics.* **13**, 134.

Figures legends:

Figure 1. Overview of the identified circRNAs and RBPs in GBM. A. Venn diagram illustrates an overlap between circRNAs that were found expressed in analyzed GBM-PRM, GBM-REC tissues and HB control. **B.** Distribution of novel and annotated circRNAs in selected samples. **C.** Volcano plot of differentially expressed circRNAs and mRNAs in GBM-PRM vs HB. The blue and red dots indicate downregulated and upregulated circRNAs, respectively. **D**. Volcano plot of differentially expressed circRNAs in GBM-REC vs GBM-PRM. The blue and red dots indicate downregulated and upregulated circRNAs, respectively. **E.** The graph presents the circular-to-linear ratio (CLR) of circRNAs and their linear counterparts. The log2fC of circRNAs is marked on the X-axis, and the log2FC values of the corresponding mRNAs are marked on the Y-axis. **F.** Venn diagram illustrates an overlap between RBPs expressed in analyzed GBM-PRM, GBM-REC tissues, and HB control. **G.** Volcano plot of differentially expressed RBPs in GBM-PRM vs HB. The blue and red dots indicate downregulated and upregulated circRNAs, respectively.

Figure 2. Expression of selected circRNA dysregulated in GBM and their linear counterparts. **A.** Boxplots illustrating the ratio of circular to linear RNA expression levels in RNA-seq analysis for analyzed transcripts dysregulated in GBM-PRM in comparison to HB. **B.** Boxplots illustrating the ratio of circular to linear RNA expression levels in RNA-seq analysis for analyzed transcripts dysregulated in GBM-REC in comparison to GBM-PRM. **C.** qRT-PCR results of circular and linear RNA expression levels of selected downregulated gene candidates in GBM-PRM normalized to HB control. Dashed horizontal lines on panels A-C indicates HB expression level. **D.** qRT-PCR results of circular and linear RNA expression levels of selected upregulated gene candidates in GBM-PRM normalized to HB control. Dashed horizontal lines on panels A-C indicates HB expression level. **E.** qRT-PCR results of circular and linear expression level of selected upregulated gene candidates in GBM-REC normalized to GBM-PRM. Dashed horizontal line indicates the expression level in GBM-PRM. **F.** Log2 fold change comparison of selected circRNAs dysregulated in GBM-PRM based on qRT-PCR and RNA-seq analysis. **G.** Log2 fold change comparison of selected circRNAs dysregulated in GBM-REC based on qRT-PCR and RNA-seq analysis. **H.** Pearson correlation of validated circRNAs and their linear counterparts dysregulated in GBM-PRM. **I.** Pearson correlation of validated circRNAs and their linear counterparts dysregulated in GBM-REC.

Figure 3. Differentially expressed RBPs with motifs enriched in differentially expressed circRNAs. A. Upregulated RBPs with motifs enriched in upregulated circRNAs. **B.** Downregulated RBPs with motifs enriched in upregulated circRNAs. **C.** Upregulated RBPs with motifs enriched in downregulated circRNAs. **D.** Downregulated RBPs with motifs enriched in downregulated circRNAs. Sequence logos represent motifs enriched in circRNAs.

Figure 4. Expression of RBPs is correlated with circRNA and circRNA host genes expression. A. Counts of circRNA significantly correlated with differentially expressed RBPs. **B.** Comparison of correlation direction between RBPs (from figure A) and circRNAs vs RBPs and circRNAs linear counterparts. RBPs highlighted as blue show the same direction of correlation and RBPs highlighted as red show opposite direction. **C.** Correlation of the expression level of selected validated circRNAs with the expression level of dysregulated RBPs.

Figure 5. RBPs with motifs enriched in introns flanking circRNAs are correlated with circRNA expression. A. Heatmap of correlation (rho) between 14 RBPs with enriched motifs flanking backsplice junction of circRNAs differentially expressed in GBM vs HB. Only significant correlations (p values < 0.05) were reported. For each RBP number of positively and negatively correlated cicrRNAs were added in the upper bound of the heatmap. **B-C**. CBEP3 and KHDRBS2 normalized expression distribution in HB and GBM. For each RBP, correlated circRNAs are reported in terms of: I. average normalized expression in GBM samples; II. average circular to linear proportion (CLR) in GBM; III. log2fold change comparing circRNA expression in GBM vs HB and IV. correlation entity with the RBP - CBEP3 and KHDRBS2, respectively.

Figure 6. RBP motifs enriched in flanking introns and circRNA itself. A. Venn plot showing overlap between RBPs with motifs enriched in flanking introns and in total sequence of circRNA. **B.** Schematic representation of circRNA with 5' and 3' flanking introns (1000 nt upstream from the 5' backsplice junction end, 1000 nt downstream from the 3' backsplice junction end) and 5' and 3' boundaries (50 nt from intron and 50 nt from circRNA sequence). **C.** Normalized frequency of enriched motifs in RBPs within regions shown in panel B.

Supplementary tables legends:

Supplementary Table 1. The characteristics of GBM tissue donors, who donated their tissue to the study. P – primary GBM, R – recurrent GBM; Classification of Malignant Tumors (TNM) according to Union for International Cancer Control (UICC) - T1, T2, T3, T4 represent size and/or extension of the primary tumor; RNA Integrity Number (RIN); samples subjected to experimental validation marked in blue.

Supplementary Table 2. The characteristics of HB controls used in the study. RNA Integrity Number (RIN).

Supplementary Table 3. Characteristics of the circular and linear transcripts subjected to the validation. ns – no statistical significance for $p \geq 0.05$.

Supplementary Table 4. CircRNAs differentially expressed in neural subtype versus other subtypes.

Supplementary Table 5. CircRNAs differentially expressed in mesenchymal subtype versus other subtypes.

Supplementary Table 6. Differentially expressed RBPs used for stratification of GBM samples into different groups.

Supplementary Table 7. RBPs shown to be brain tumor markers, correlated with disease outcome or response to treatment.

Supplementary Table 8. Differentially expressed RBPs used for survival analysis.

Supplementary Table 9. List of the primers used in the qPCR validation and RNase R treatment experiment.

Figures legends:

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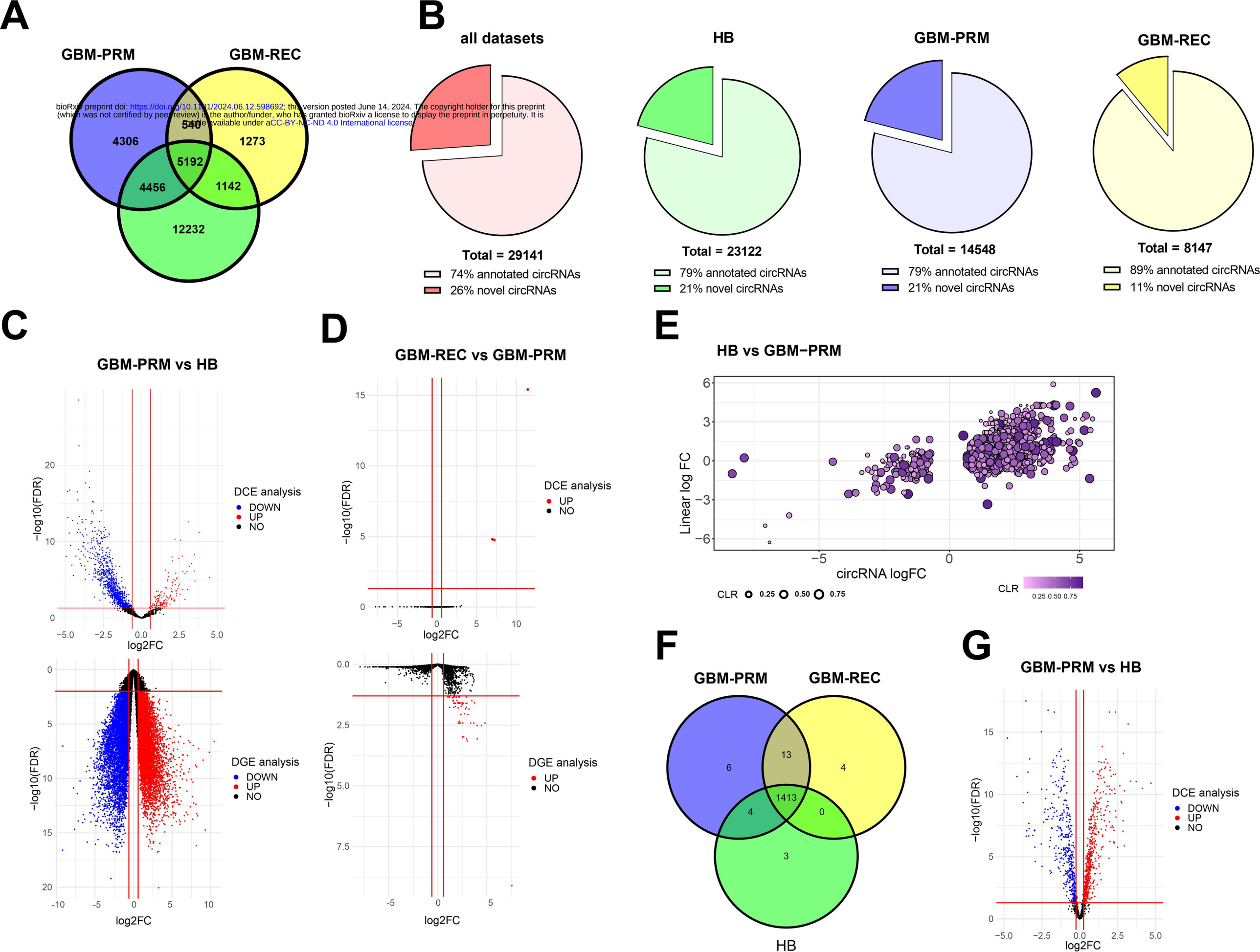
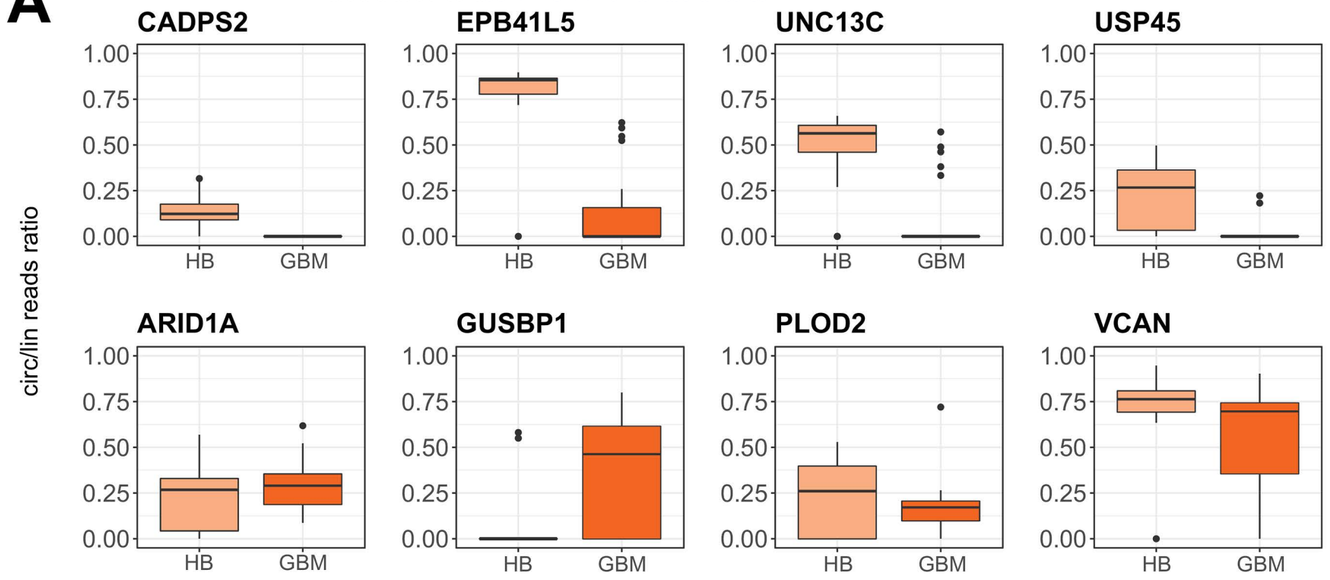
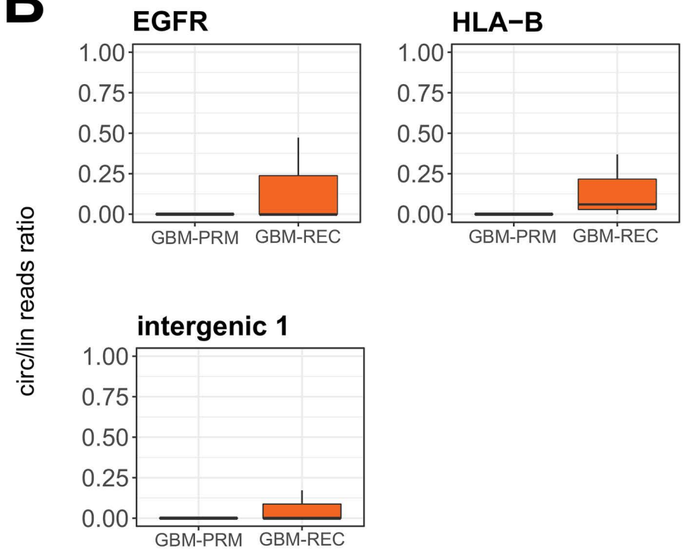
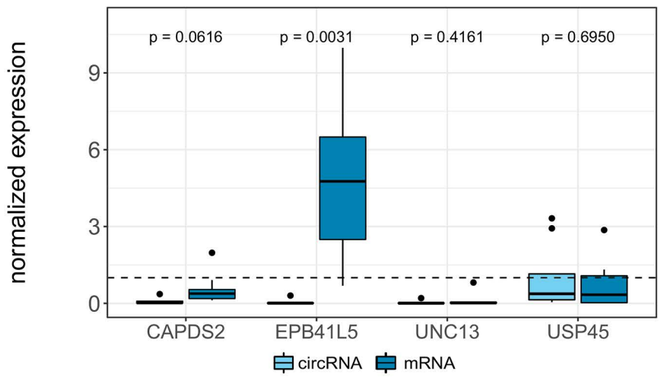
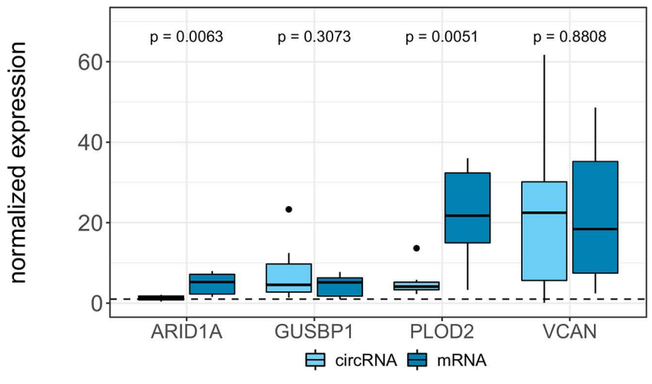
Figure 7. Representation of a subtype-specific circRNA and RBPSs clustering GBM into new subtypes. A. Heatmap presenting subtype classification of the GBM samples used in the study. B. Venn diagram shows the number of the identified circRNAs in detected GBM subtypes. C. Comparison of selected circRNA up- and downregulated in mesenchymal and upregulated in neural subtypes. D. Log2 fold changes of 214 differentially expressed RBPs that can be used for patients' stratification. E. Heatmap showing mean expression differences between 41 RBPs within samples belonging to distinct GBM subtypes. RBPs highlighted red contain binding motifs enriched in differentially expressed circRNA sequences/flanking regions. F. RBPs clustering GBM samples into 2 groups with motifs enriched in differentially expressed circRNA sequences/flanking regions. G. ELAVL3 clusters GBM samples into 3 groups and has binding motifs enriched in differentially expressed circRNA sequences/flanking regions.

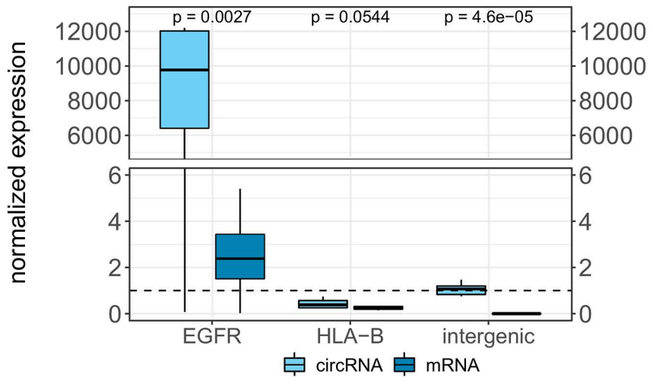


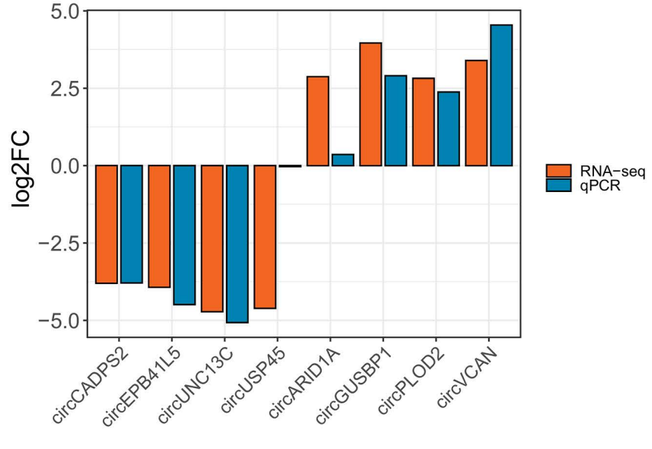


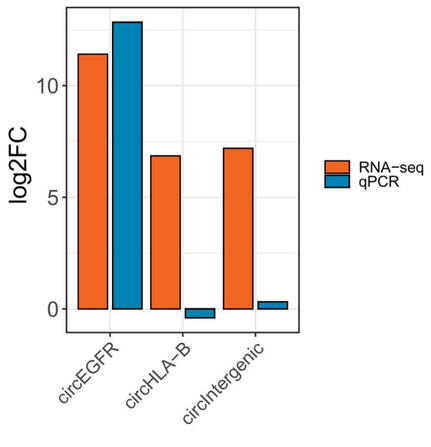












H

Gene ID	Pearson Correlation Coefficient (r)	p-value
CADPS2	0.1440	0.7336
EPB41L5	0.1440	0.5504
UNC13C	0.9970	<0.0001
USP45	-0.5331	0.1737
ARID1A	0.2221	0.2385
GUSBP1	0.4587	0.2529
PLOD2	0.4497	0.2636
VCAN	0.6957	0.05533

I

Gene ID	Pearson Correlation Coefficient (r)	p-value
EGFR	0.9175	0.003587
HLA-B	0.8896	0.007315
Intergenic 1	-	-

RBPs

upregulated

downregulated

circRNAs upregulated

A

EIF4G2 FUS HNRNPA2B1 ILF2 PCBP2 MBNL1

PPRC1 RBM25 RBM4 RBM6 RBMX

SRSF1 SRSF11 SRSF2 SRSF4 ZC3H10

B

EIF4B RBM24

HNRNPH2

PCBP4

circRNAs downregulated

C

FUBP3 HNRNPD MBNL1 PTBP1

RBM41 RBM47 RBMS2 RC3H1

SF3B4 TIA1 ZNF326 ZFP36

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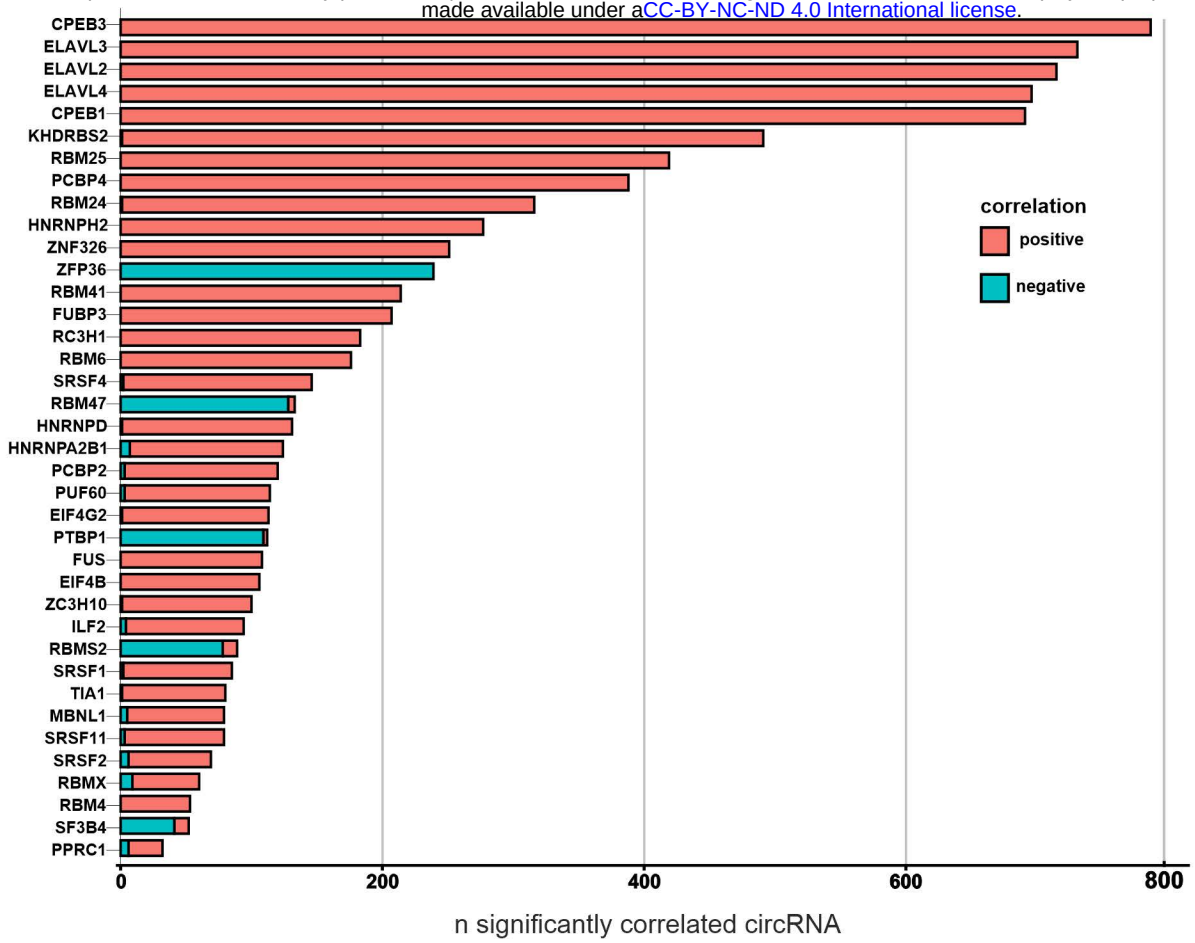
ELAVL3 KHDRBS2

A



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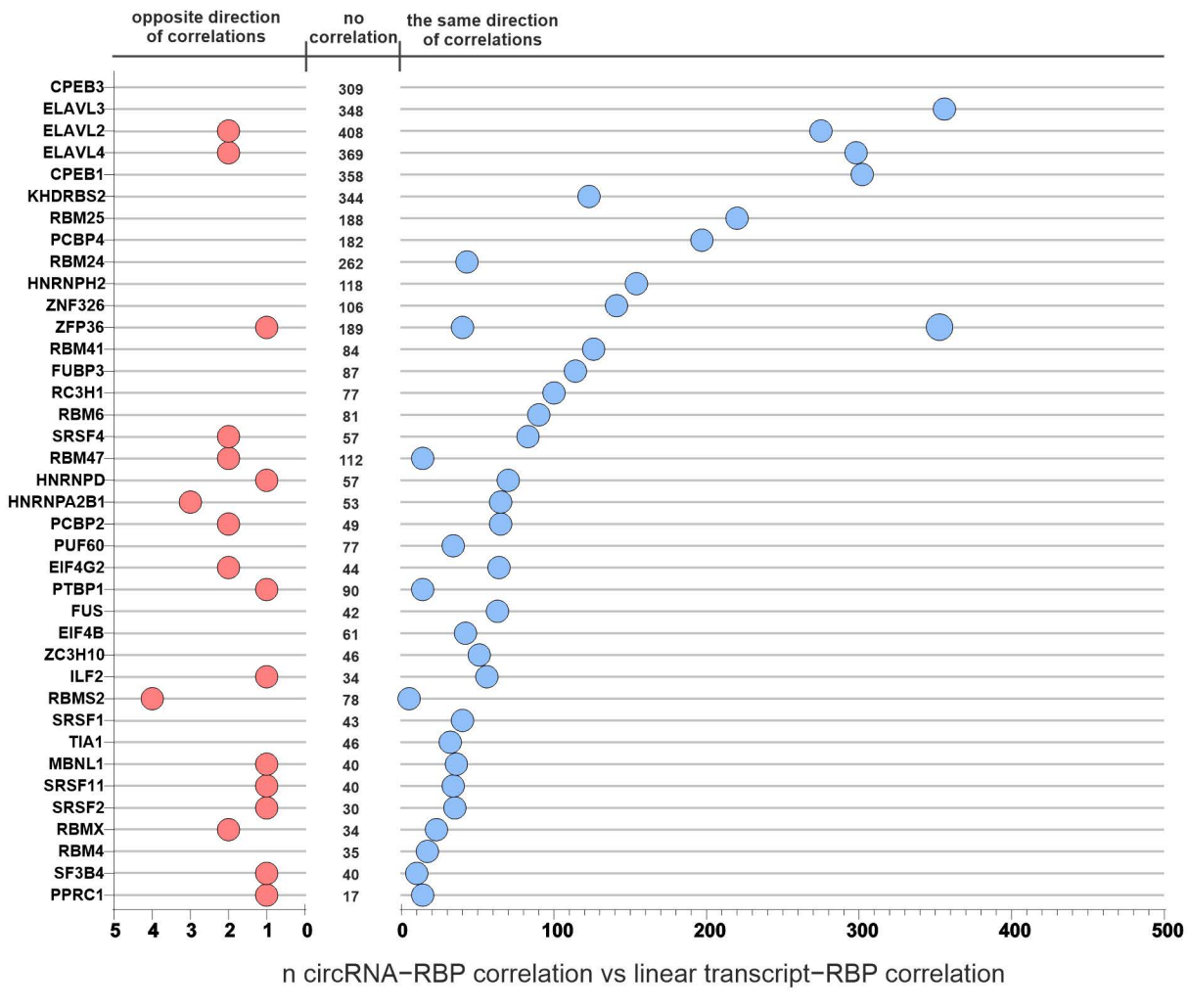

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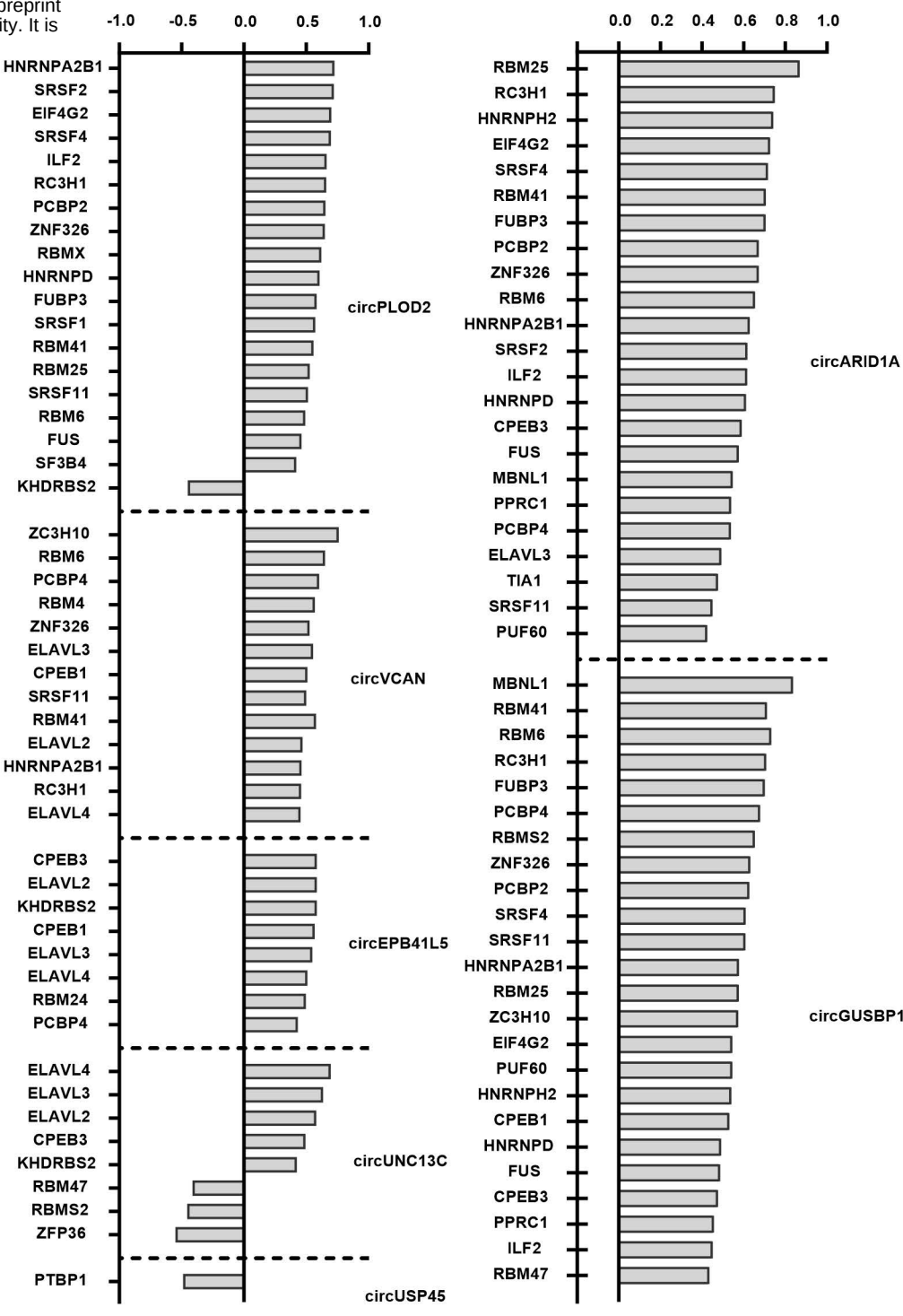

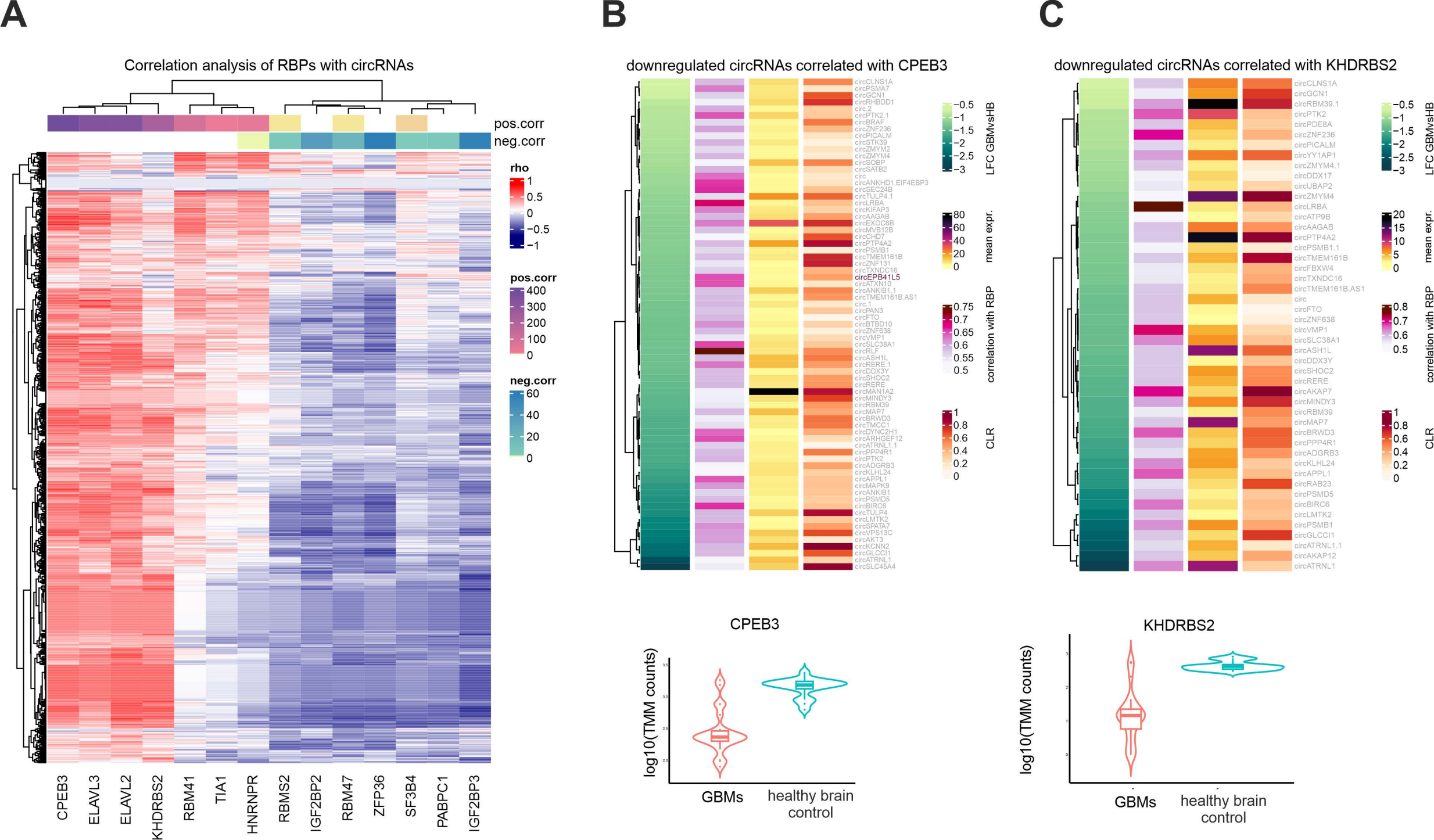
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0
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−1
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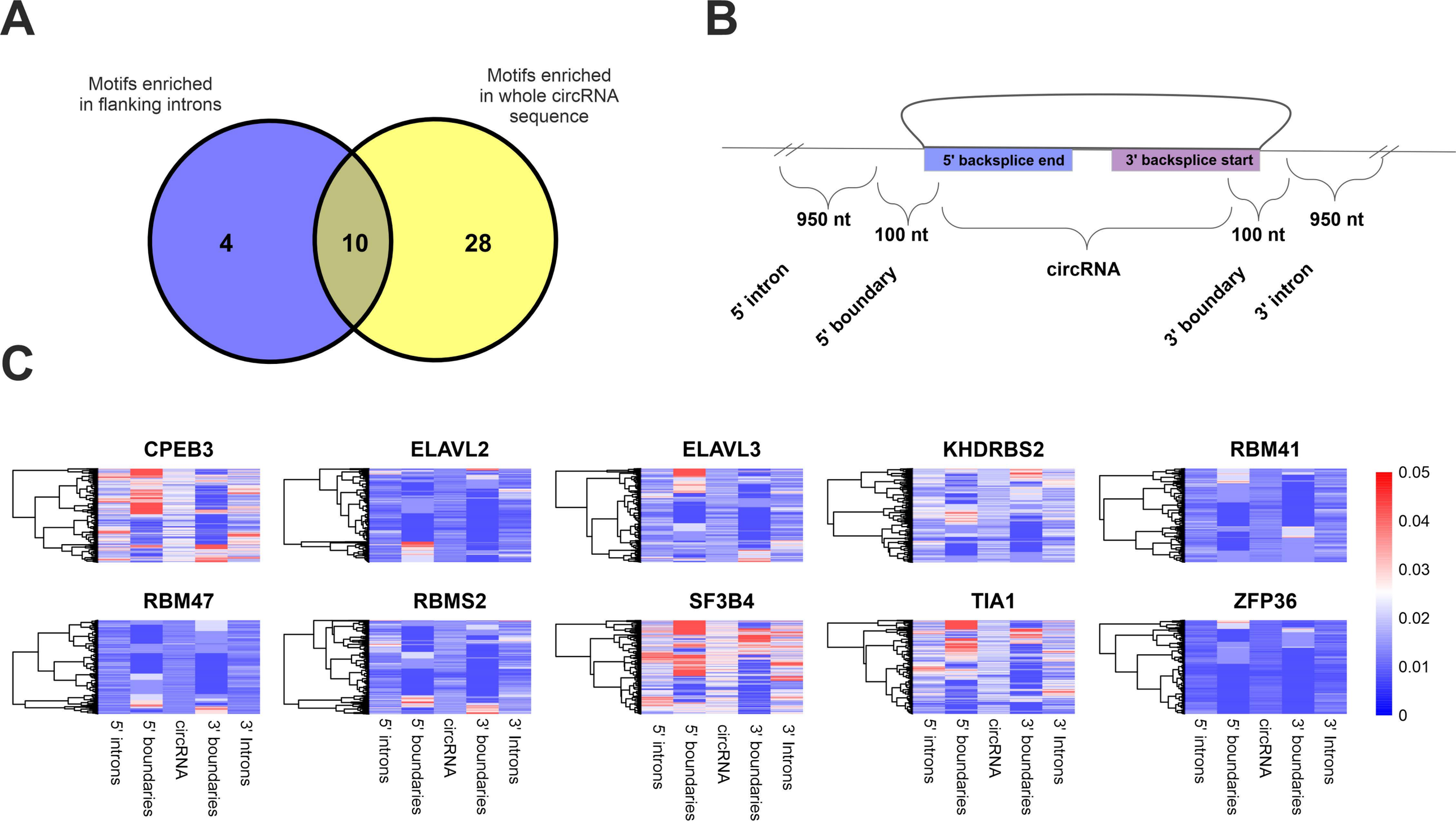
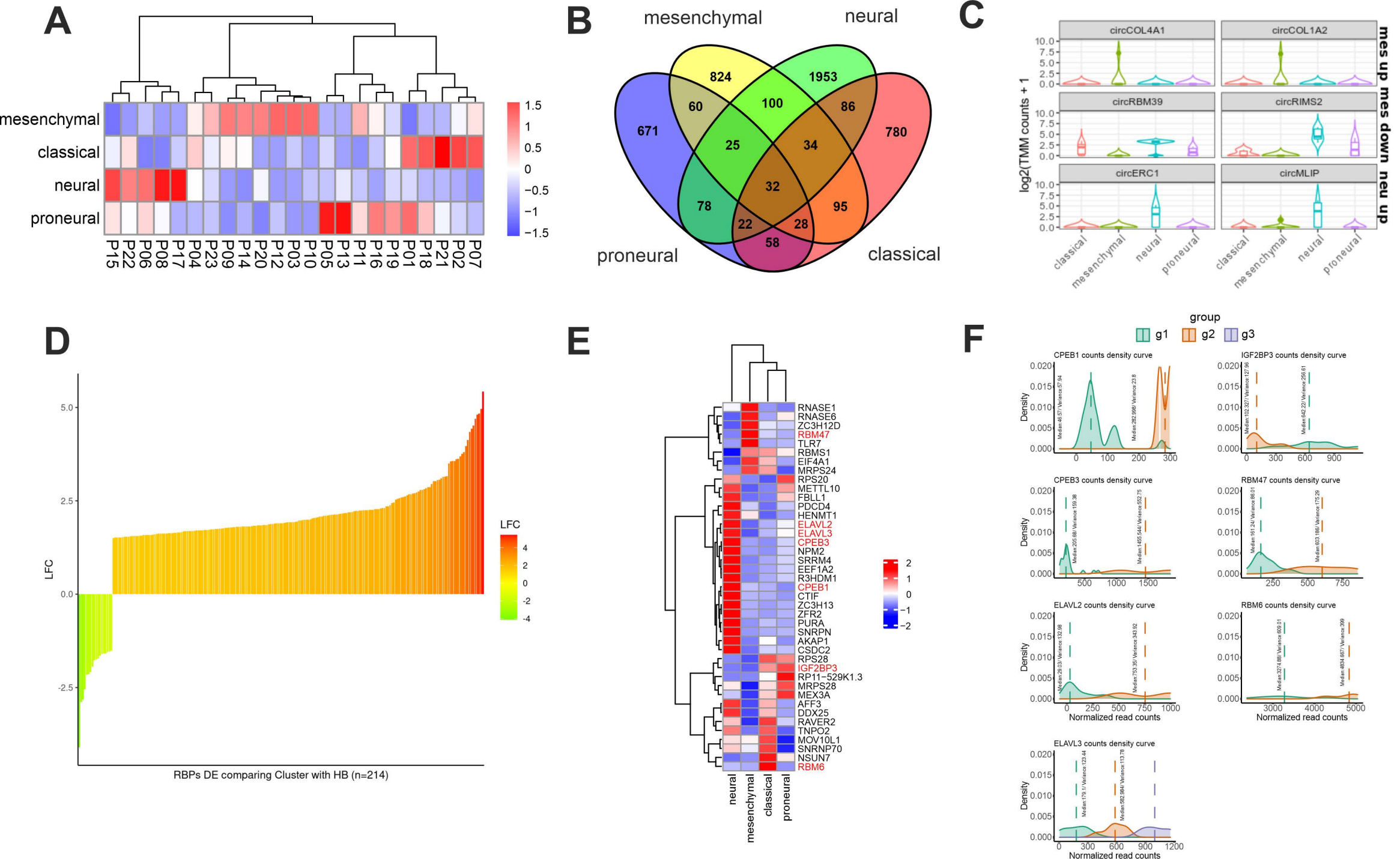
300
200
100
0
neg.corr
60
40
20
0
CPEB3
ELAVL3
ELAVL2
KHDRBS2
RBM41
TIA1
HNRNPR
RBMS2
IGF2BP2
RBM47
ZFP36
SF3B4
PABPC1
IGF2BP3
B
downregulated circRNAs correlated with CPEB3
circCLNS1A
circPSMA7
circGCN1
circRHBDD1
circ.2
circPTK2.1
circBRAF
circZNF236
circPICALM
circSTK39
circZMYM2
circZMYM4
circSOBP
circSATB2
circ
circANKHD1.EIF4EBP3
circSEC24B
circTULP4.1
circLRBA
circKIFAP3
circAAGAB
circEXOC6B
circMVB12B
circCHD7
circPTP4A2
circPSMB1
circTMEM161B
circZNF131
circTXNDC16
circEPB41L5
circATXN10
circANKIB1.1
circTMEM161B.AS1
circ.1
circPAN3
circFTO
circBTBD10
circZNF638
circVMP1
circSLC38A1
circRLF
circASH1L
circRERE.1
circDDX3Y
circSHOC2
circRERE
circMAN1A2
circMINDY3
circRBM39
circMAP7
circBRWD3
circTMCC1
circDYNC2H1
circARHGEF12
circATRNL1.1
circPPP4R1
circPTK2
circADGRB3
circKLHL24
circAPPL1
circMAPK9
circANKIB1
circPSMD5
circBIRC6
circTULP4
circLMTK2
circSPATA7
circVPS13C
circAKT3
circKCNN2
circGLCCI1
circATRNL1
circSLC45A4
−0.5
−1
−1.5
−2
−2.5
−3
LFC GBMvsHB
80
60
40
20
0
mean expr.
0.75
0.7
0.65
0.6
0.55
0.5
correlation with RBP
1
0.8
0.6
0.4
0.2
0
CLR
CPEB3
log10(TMM counts)
GBMs
healthy brain control
C
downregulated circRNAs correlated with KHDRBS2
circCLNS1A
circGCN1
circRBM39.1
circPTK2
circPDE8A
circZNF236
circPICALM
circYY1AP1
circZMYM4.1
circDDX17
circUBAP2
circZMYM4
circLRBA
circATP9B
circAAGAB
circPTP4A2
circPSMB1.1
circTMEM161B
circFBXW4
circTXNDC16
circTMEM161B.AS1
circ
circFTO
circZNF638
circVMP1
circSLC38A1
circASH1L
circDDX3Y
circSHOC2
circRERE
circAKAP7
circMINDY3
circRBM39
circMAP7
circBRWD3
circPPP4R1
circADGRB3
circKLHL24
circAPPL1
circRAB23
circPSMD5
circBIRC6
circLMTK2
circPSMB1
circGLCCI1
circATRNL1.1
circAKAP12
circATRNL1
−0.5
−1
−1.5
−2
−2.5
−3
LFC GBMvsHB
20
15
10
5
0
mean expr.
0.8
0.7
0.6
0.5
correlation with RBP
1
0.8
0.6
0.4
0.2
0
CLR
KHDRBS2
log10(TMM counts)
GBMs
healthy brain control


A
Motifs enriched in flanking introns
Motifs enriched in whole circRNA sequence
4
10
28
B
5' backsplice end
3' backsplice start
950 nt
100 nt
100 nt
950 nt
5' intron
5' boundary
circRNA
3' boundary
3' intron
C
CPEB3
ELAVL2
ELAVL3
KHDRBS2
RBM41
RBM47
RBMS2
SF3B4
TIA1
ZFP36
5' introns
5' boundaries
circRNA
3' boundaries
3' Introns
0.05
0.04
0.03
0.02
0.01
0


A
mesenchymal
classical
neural
proneural
P15 P22 P06 P08 P17 P04 P23 P09 P14 P20 P12 P03 P10 P05 P13 P11 P16 P19 P01 P18 P21 P02 P07
1.5 1 0.5 0 −0.5 −1 −1.5
B
mesenchymal
neural
proneural
classical
671
824
1953
780
60
100
86
25
34
78
32
95
22
28
58
C
circCOL4A1
circCOL1A2
circRBM39
circRIMS2
circERC1
circMLIP
log2(TMM counts + 1
mes up mes down neu up
classical
mesenchymal
neural
proneural
D
LFC
RBPs DE comparing Cluster with HB (n=214)
E
RNASE1
RNASE6
ZC3H12D
RBM47
TLR7
RBMS1
EIF4A1
MRPS24
RPS20
METTL10
FBLL1
PDCD4
HENMT1
ELAVL2
ELAVL3
CPEB3
NPM2
SRRM4
EEF1A2
R3HDM1
CPEB1
CTIF
ZC3H13
ZFR2
PURA
SNRPN
AKAP1
CSDC2
RPS28
IGF2BP3
RP11−529K1.3
MRPS28
MEX3A
AFF3
DDX25
RAVER2
TNPO2
MOV10L1
SNRNP70
NSUN7
RBM6
neural
mesenchymal
classical
proneural
F
group
g1
g2
g3
CPEB1 counts density curve
IGF2BP3 counts density curve
CPEB3 counts density curve
RBM47 counts density curve
ELAVL2 counts density curve
RBM6 counts density curve
ELAVL3 counts density curve
Density
Normalized read counts

Supplementary Figure 1. Overview of the features of circRNAs identified in GBM-PRM and GBM-REC tissues compared to HB control. A. Barplot presents the genomic origin of identified circRNAs from which the vast majority are derived from exons. **B.** Histogram displays a spliced length distribution of identified circRNAs for analyzed tissues.

Supplementary Figure 2. Percentage of unique circRNA per chromosome in GBM-PRM and GBM-REC in comparison to the HB control.

Supplementary Figure 3. Cluster heatmap illustrating differential expression of circRNAs among GBM (GBM-PRM and GBM-REC) versus HB samples with the presence of different circRNAs in individual molecular GBM subtypes.

Supplementary Figure 4. A. GO ontologies. Enrichment was calculated using mean circRNA log2 fold change for the particular host genes. **B.** Bubble map of KEGG enriched terms using GO ontologies. Enrichment was calculated using mean circRNA log2 fold change for the particular host genes.

Supplementary Figure 5. Cluster heatmap illustrating differential expression of RBPs among GBM (GBM-PRM and GBM-REC) versus HB samples. Expression of 214 RBPs can be used to define novel patients' subgroups beyond known molecular subtypes.

Supplementary Figure 6. RNase R treatment of circRNAs and their linear counterparts. A-C. Bands represent PCR products on agarose gel of selected downregulated, upregulated and progression-related candidates, respectively. **1.** Band represent PCR product on agarose gel of circRNA without RNase R treatment; **2.** Band represent PCR product on agarose gel of mRNA without RNase R treatment; **3.** Band represent PCR product on agarose gel of circRNA with RNase R treatment; **4.** Band represent PCR product on agarose gel of mRNA with RNase R treatment; **5, 6.** Negative control of PCR product.

Supplementary Figure 7. Normalized expression distribution of RBP's transcripts in HB and GBM. A. Upregulated RBPs with motifs enriched in upregulated circRNAs. **B.** Downregulated RBPs with motifs enriched in upregulated circRNAs. **C.** Upregulated RBPs with motifs enriched in downregulated circRNAs. **D.** Downregulated RBPs with motifs enriched in downregulated circRNAs. Sequence logos represent motifs enriched in circRNAs.

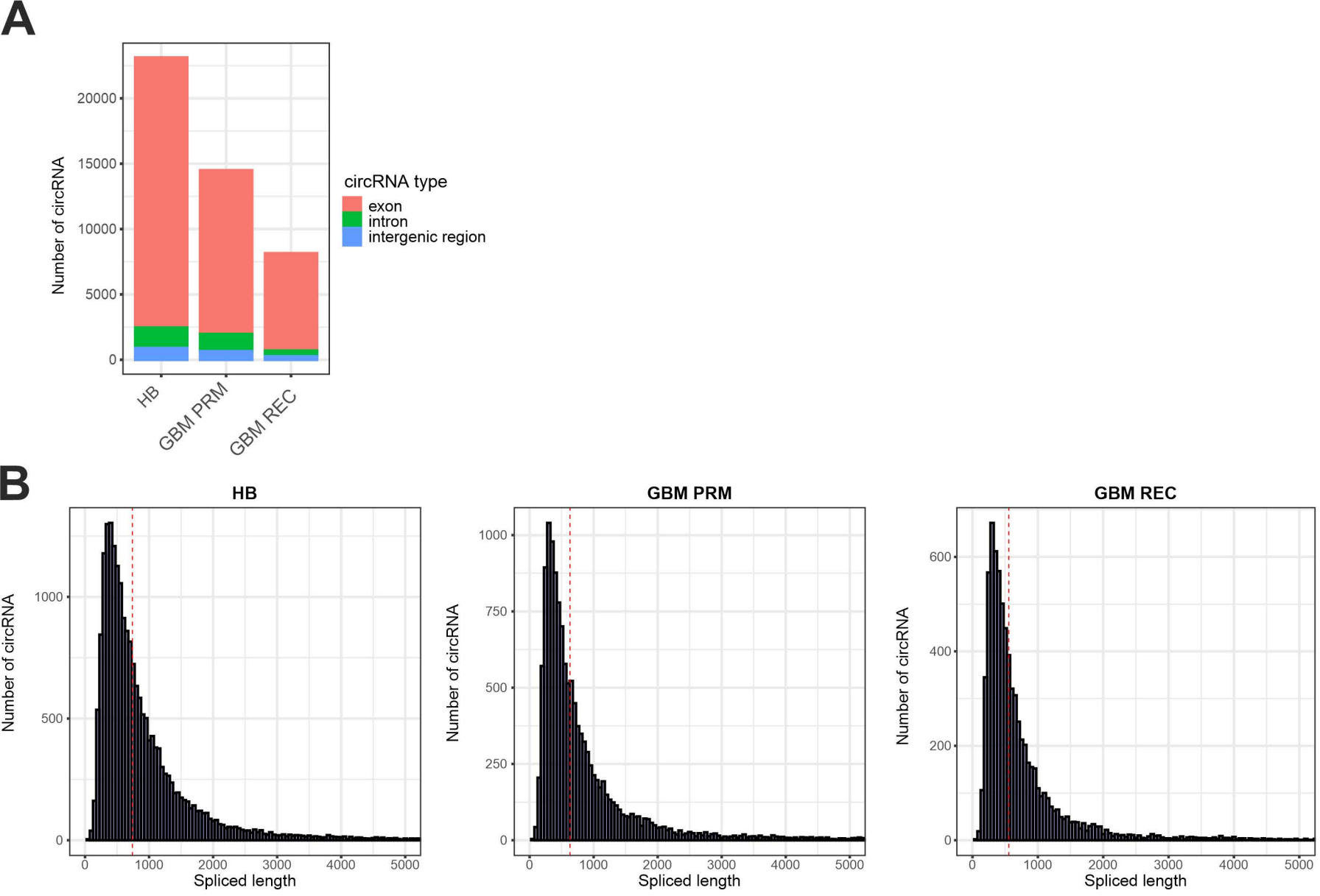
Supplementary Figure 8. Boxplots representing correlation coefficient between RBPs with motifs enriched in circRNAs and differentially expressed cicrRNAs.

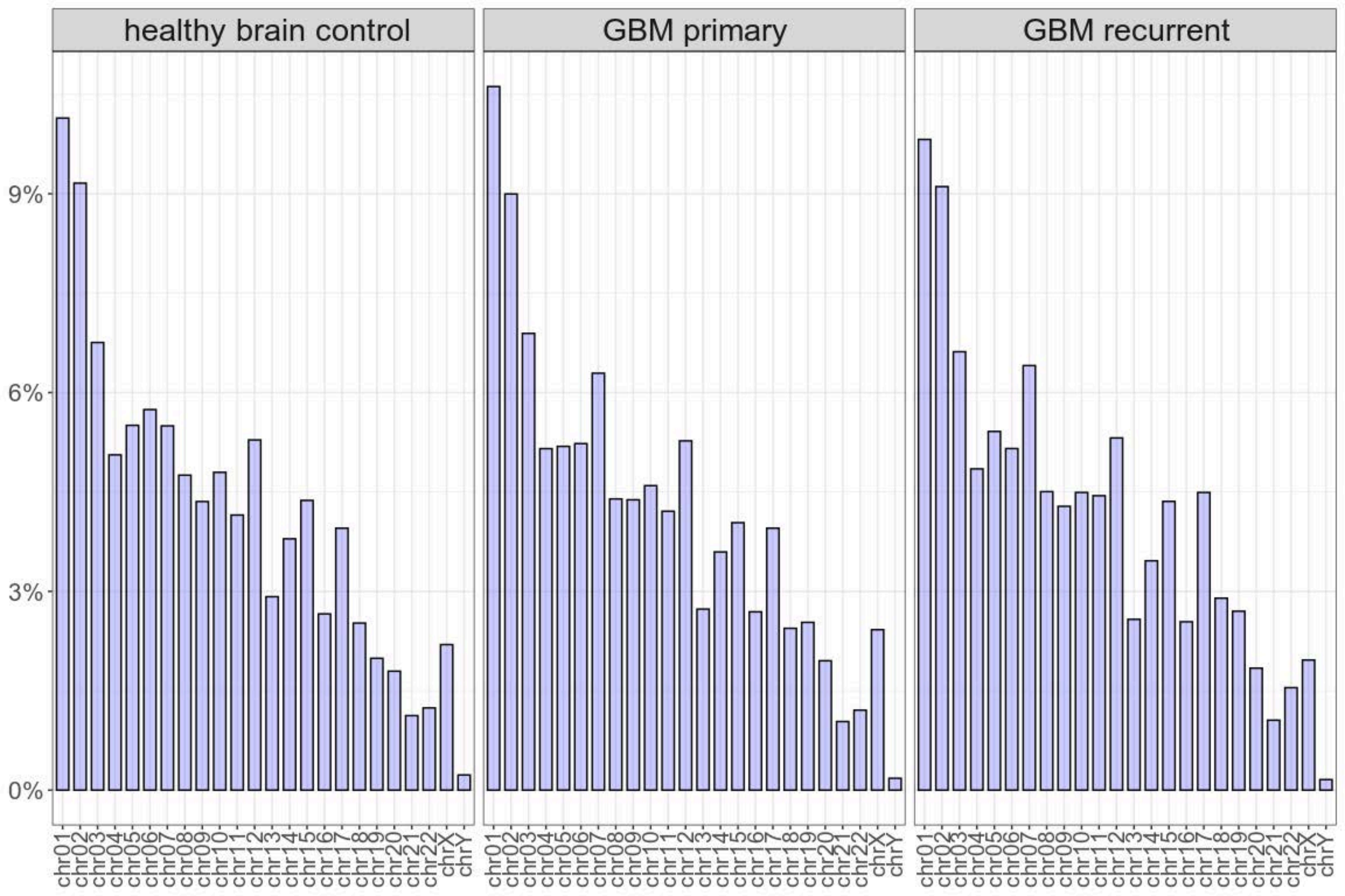
Supplementary Figure 9. Upset plot for RBPs with binding motifs in flanking introns vs RBPs with binding motifs in circRNAs.

Supplementary Figure 10. Survival analysis for differentially expressed RBPs based on TCGA glioblastoma dataset. A. Kaplan-Meier curves for RBPs upregulated in analyzed 23 GBM samples and significantly correlated with overall survival rate with TCGA GBM dataset. **B.** The same as A, for downregulated RBPs. RBPs highlighted red in both panels were previously shown to be brain tumor markers, correlated with disease outcome or response to treatment.

Supplementary Figure 11. Electrophoretic separation of total RNA isolated from HB samples. The electrophoretic separation was prepared using the Agilent 2100 Bioanalyzer system. Only samples with RIN (RNA Integrity Number) value above 8 were taken into further investigation.

Supplementary Figure 12. Electrophoretic separation of total RNA isolated from GBM-PRM and GBM-REC samples. Electrophoretic separation was prepared using the Agilent 2100 Bioanalyzer system. Only samples with RIN (RNA Integrity Number) value above 7 were taken into further investigation.


A
Number of circRNA
20000
15000
10000
5000
0
HB
GBM PRM
GBM REC
circRNA type
exon
intron
intergenic region
B
HB
GBM PRM
GBM REC
Number of circRNA
Spliced length
0
500
1000
250
750
1000
200
400
600
1000
2000
3000
4000
5000


healthy brain control
GBM primary
GBM recurrent
9%
6%
3%
0%
chr01
chr02
chr03
chr04
chr05
chr06
chr07
chr08
chr09
chr10
chr11
chr12
chr13
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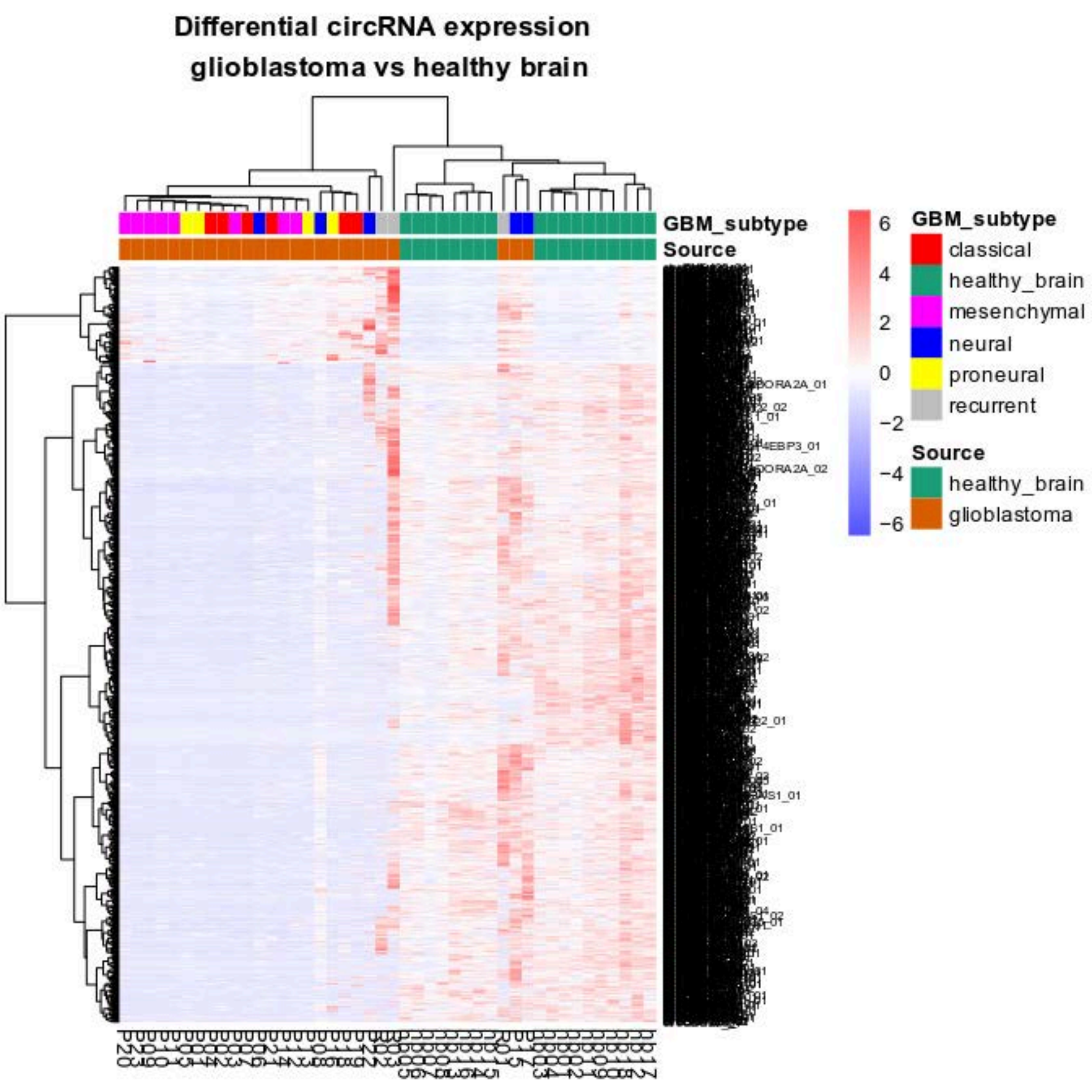
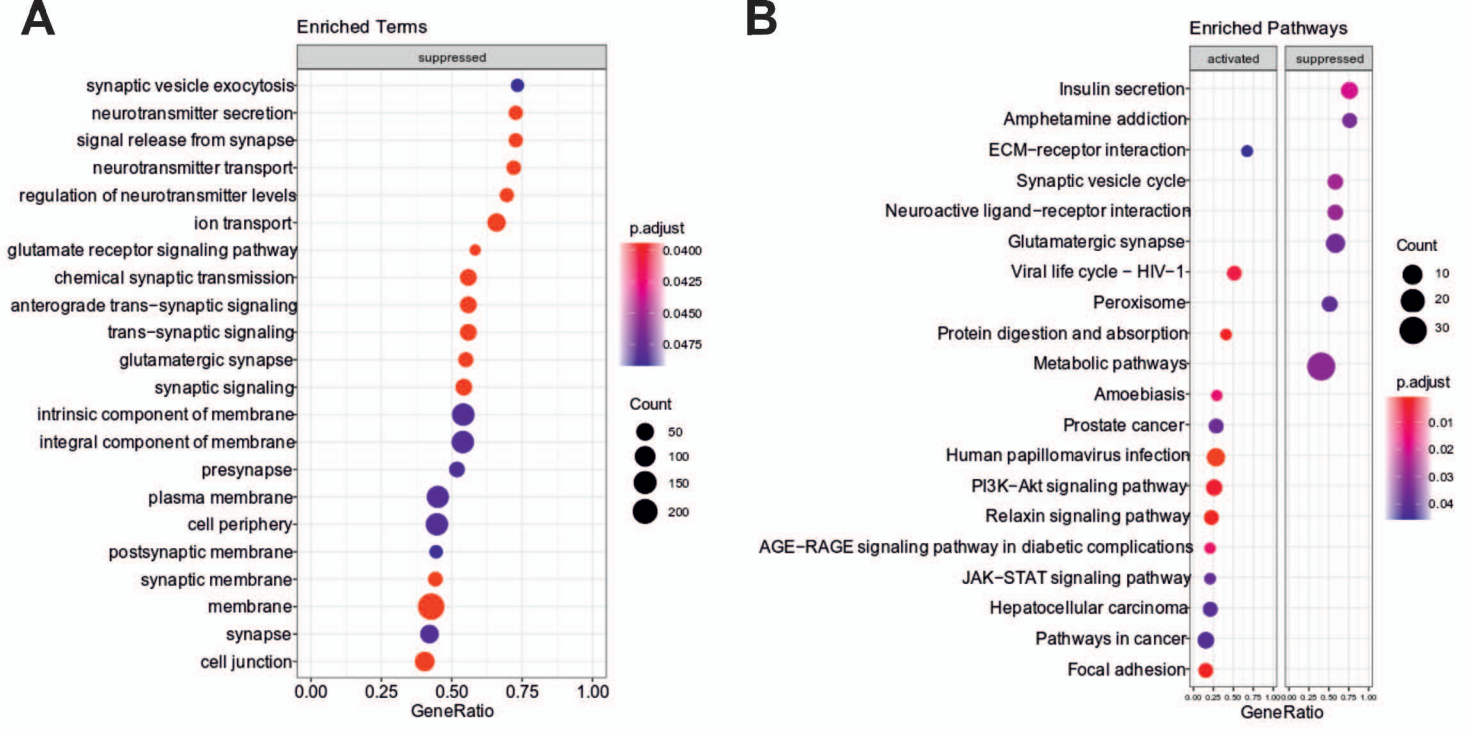
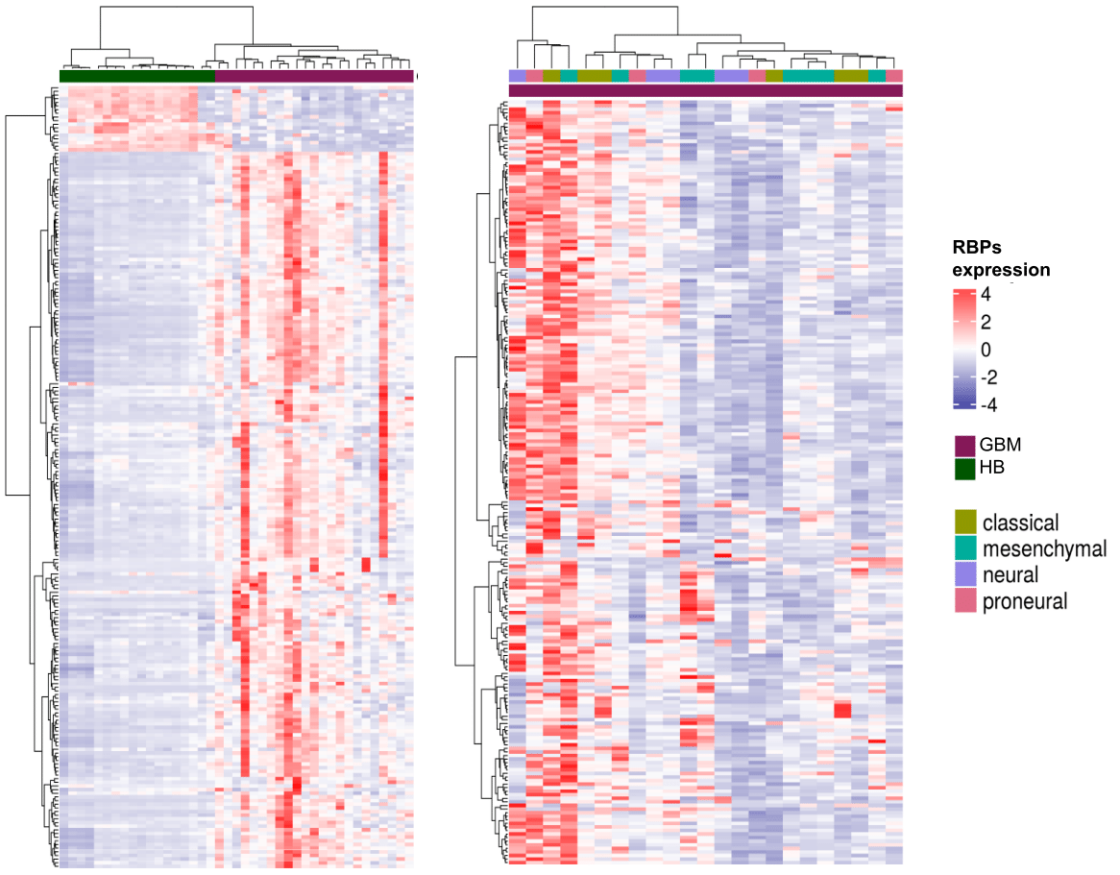
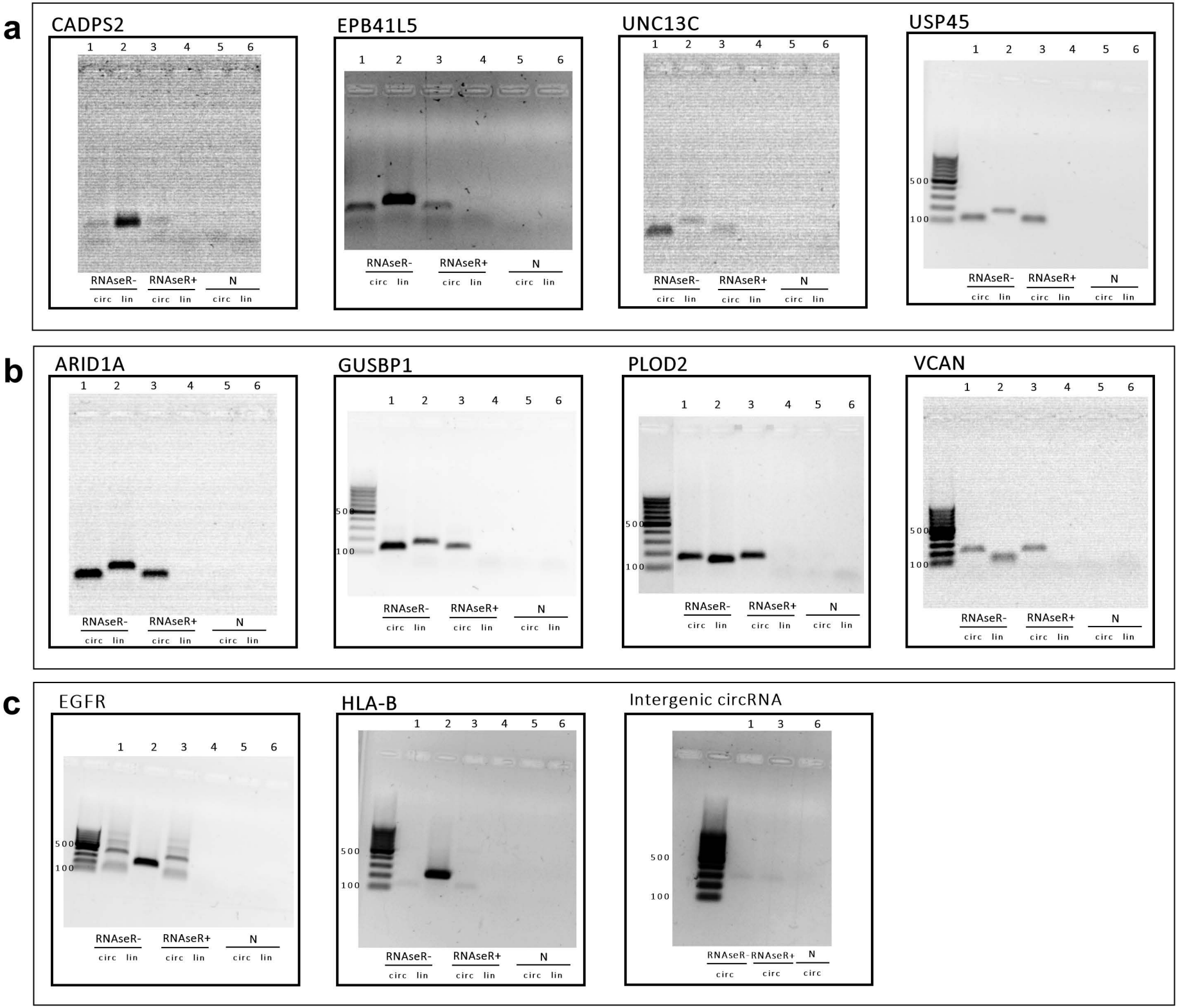
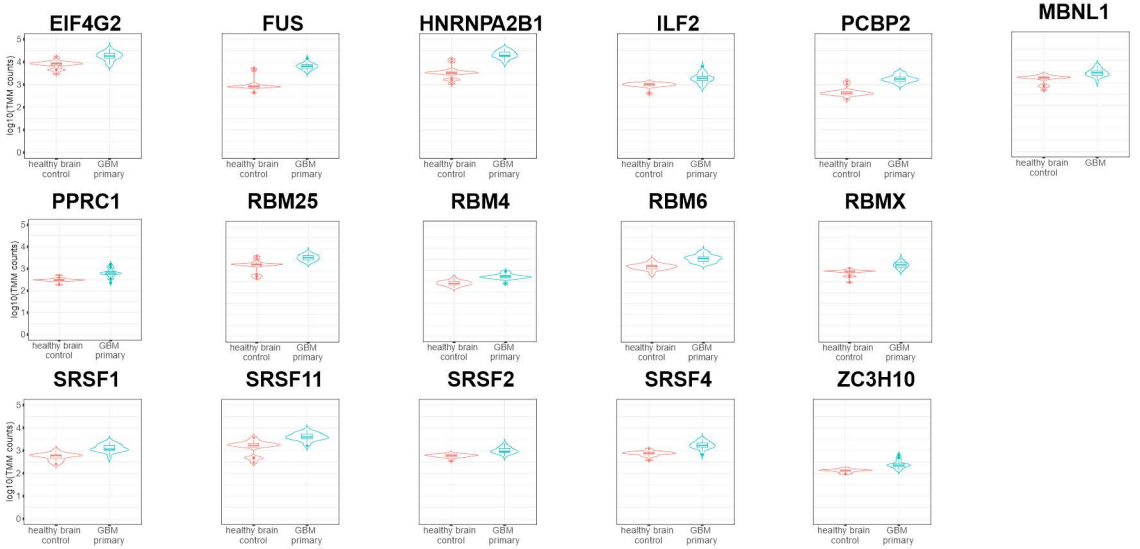
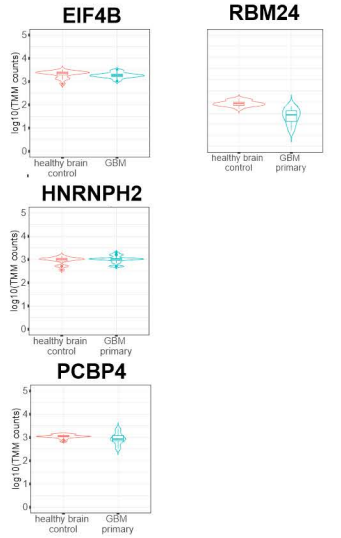
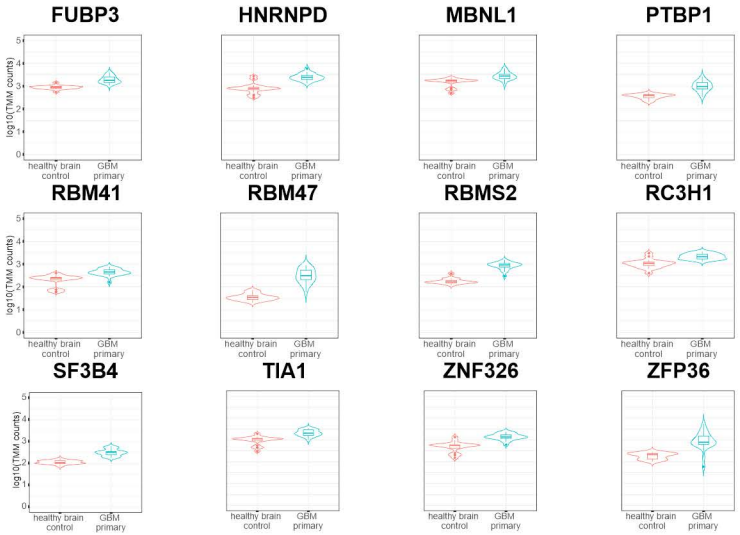
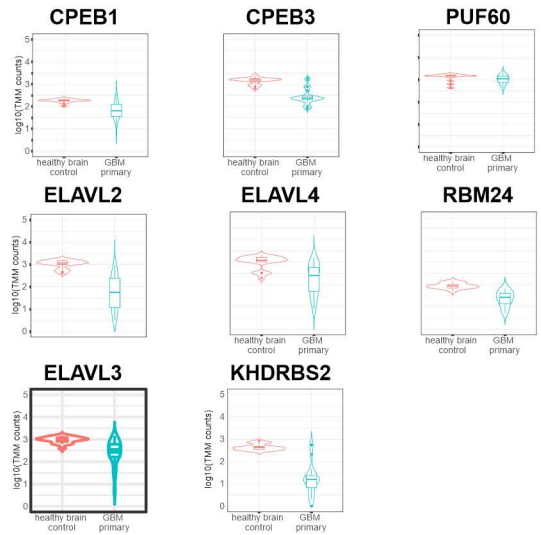
chr18
chr19
chr20
chr21
chr22
chrX
chrY

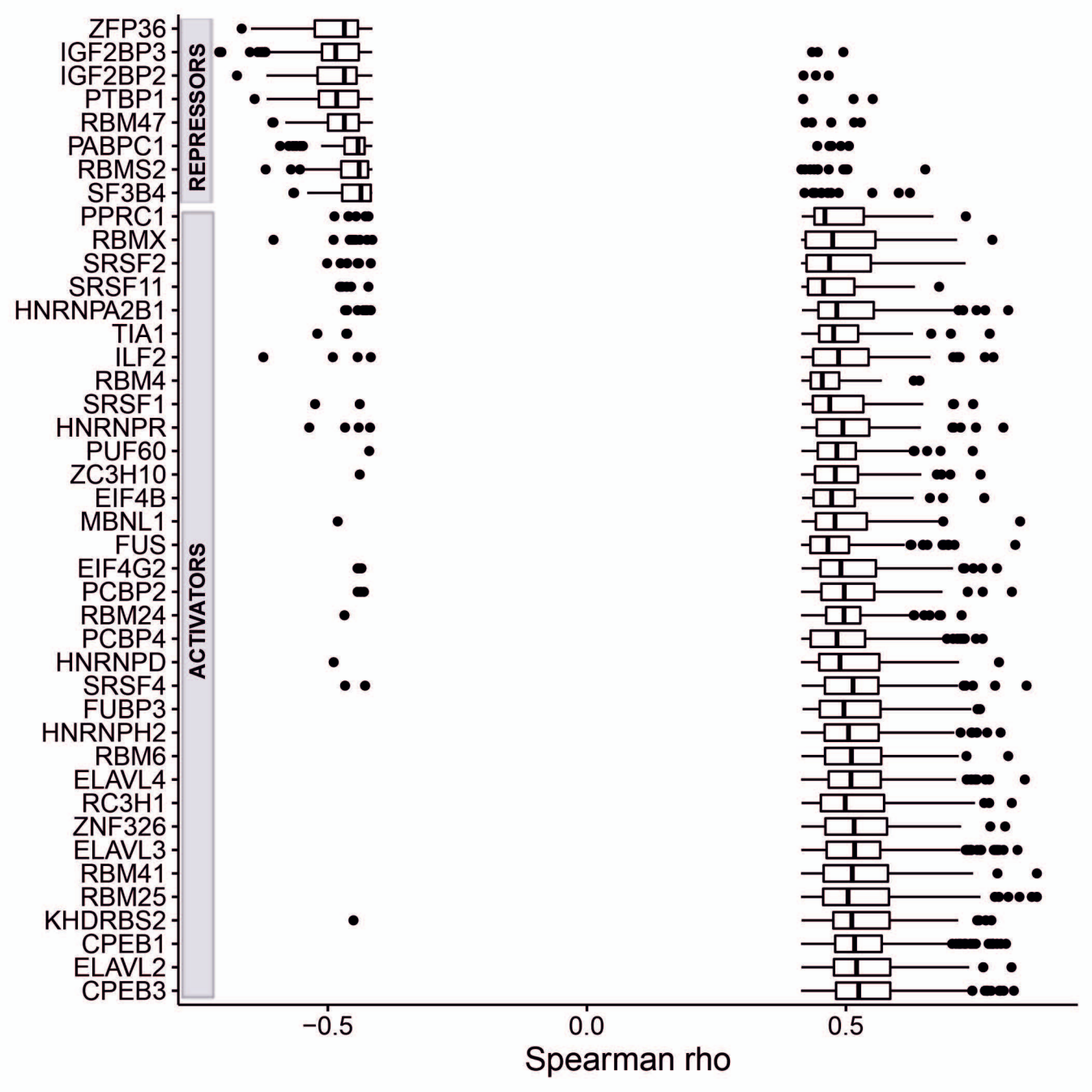

Differential circRNA expression
glioblastoma vs healthy brain
GBM_subtype
Source
6
4
2
0
−2
−4
−6
GBM_subtype
classical
healthy_brain
mesenchymal
neural
proneural
recurrent
Source
healthy_brain
glioblastoma

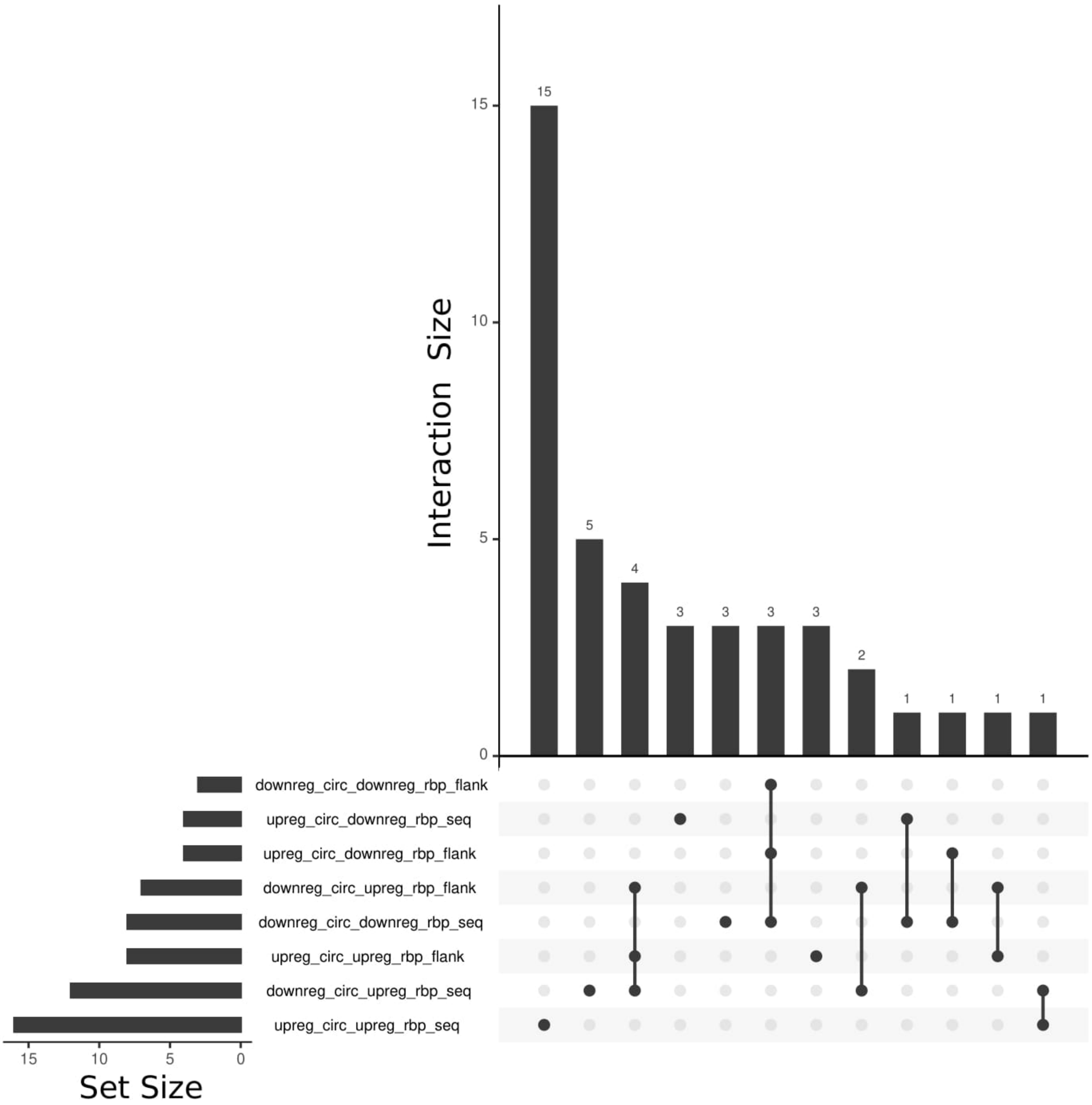

A
Enriched Terms
suppressed
synaptic vesicle exocytosis
neurotransmitter secretion
signal release from synapse
neurotransmitter transport
regulation of neurotransmitter levels
ion transport
glutamate receptor signaling pathway
chemical synaptic transmission
anterograde trans−synaptic signaling
trans−synaptic signaling
glutamatergic synapse
synaptic signaling
intrinsic component of membrane
integral component of membrane
presynapse
plasma membrane
cell periphery
postsynaptic membrane
synaptic membrane
membrane
synapse
cell junction
0.00
0.25
0.50
0.75
1.00
GeneRatio
p.adjust
0.0400
0.0425
0.0450
0.0475
Count
50
100
150
200
B
Enriched Pathways
activated
suppressed
Insulin secretion
Amphetamine addiction
ECM−receptor interaction
Synaptic vesicle cycle
Neuroactive ligand−receptor interaction
Glutamatergic synapse
Viral life cycle − HIV−1
Peroxisome
Protein digestion and absorption
Metabolic pathways
Amoebiasis
Prostate cancer
Human papillomavirus infection
PI3K−Akt signaling pathway
Relaxin signaling pathway
AGE−RAGE signaling pathway in diabetic complications
JAK−STAT signaling pathway
Hepatocellular carcinoma
Pathways in cancer
Focal adhesion
0.00 0.25 0.50 0.75 1.00
0.00 0.25 0.50 0.75 1.00
GeneRatio
Count
10
20
30
p.adjust
0.01
0.02
0.03
0.04


RBPs
expression
4
2
0
-2
-4
GBM
HB
classical
mesenchymal
neural
proneural


a
CADPS2
EPB41L5
UNC13C
USP45
1 2 3 4 5 6
500
100
RNAseR- RNAseR+ N
circ lin circ lin circ lin
b
ARID1A
GUSBP1
PLOD2
VCAN
c
EGFR
HLA-B
Intergenic circRNA
1 3 6
RNAseR- RNAseR+ N
circ circ circ

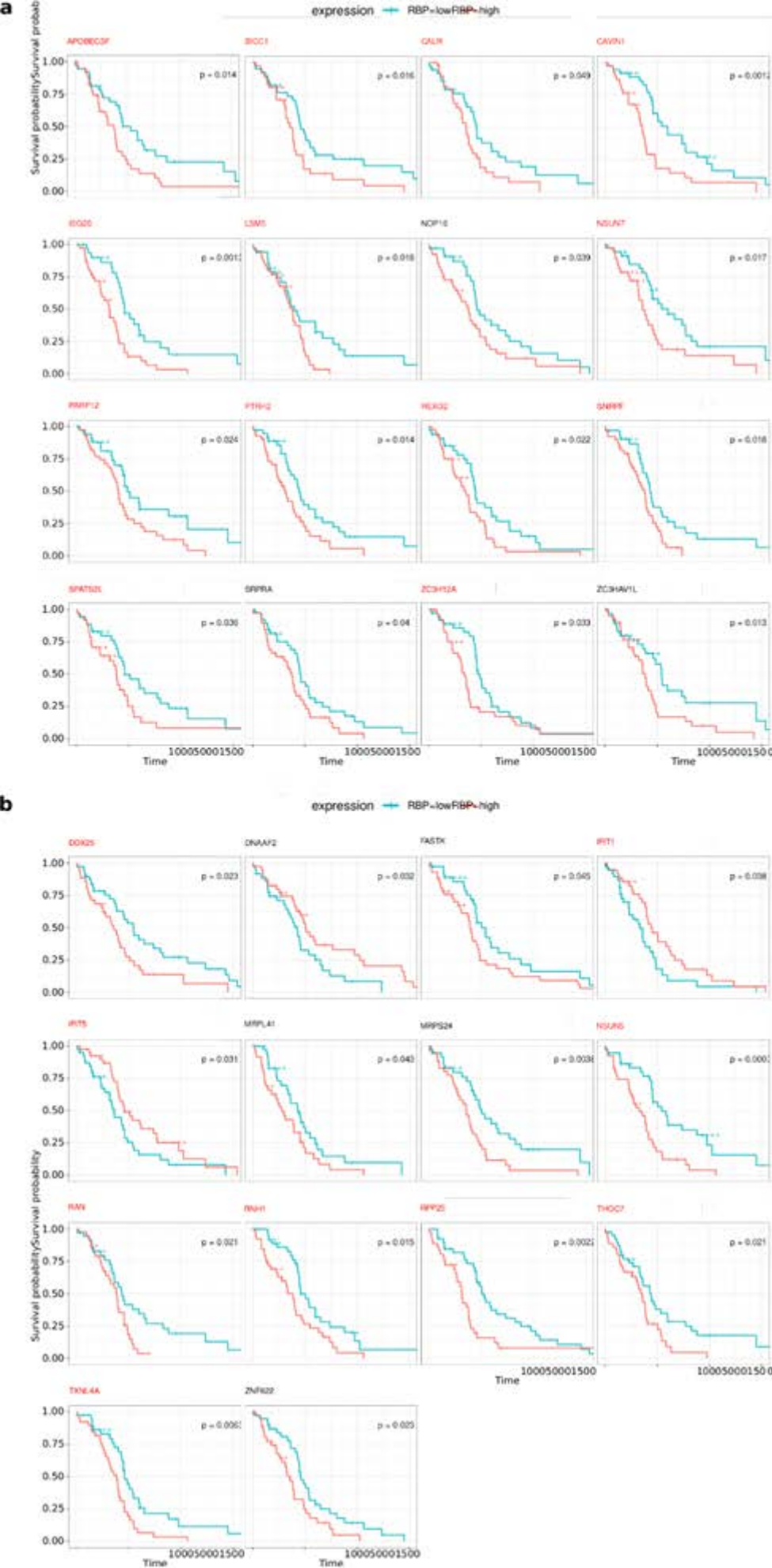
	upregulated RBPs	downregulated RBPs
upregulated circRNA		
downregulated circRNA		


ZFP36
IGF2BP3
IGF2BP2
PTBP1
RBM47
PABPC1
RBMS2
SF3B4
PPRC1
RBMX
SRSF2
SRSF11
HNRNPA2B1
TIA1
ILF2
RBM4
SRSF1
HNRNPR
PUF60
ZC3H10
EIF4B
MBNL1
FUS
EIF4G2
PCBP2
RBM24
PCBP4
HNRNPD
SRSF4
FUBP3
HNRNPH2
RBM6
ELAVL4
RC3H1
ZNF326
ELAVL3
RBM41
RBM25
KHDRBS2
CPEB1
ELAVL2
CPEB3
REPRESSORS
ACTIVATORS
−0.5
0.0
0.5
Spearman rho



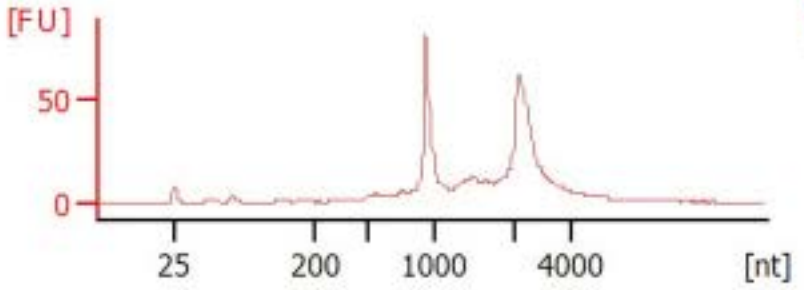
RBP											
uC_uR_s*	**dC_uR_s***	**dC_uR_s* uC_uR_f* dC_uR_f***	**uC_dR_s***	**dC_dR_s***	**dC_dR_s* uC_dR_f* dC_dR_f***	**uC_uR_f***	**dC_uR_s* dC_uR_f***	**dC_dR_s* uC_dR_s***	**dC_dR_s* uC_dR_f***	**uC_uR_f* dC_uR_f***	**uC_uR_s* dC_uR_s***
EIF4G2	FUBP3	RBMS2	EIF4B	CPEB1	CPEB3	HNRNPR	RBM41	RBM24	ELAVL3	PABPC1	MBNL1
FUS	HNRNPD	SF3B4	HNRNPH2	ELAVL4	ELAVL2	IGF2BP2	RBM47				
HNRNPA2	PTBP1	TIA1	PCBP4	PUF60	KHDRBS2	IGF2BP3					
B1	PCBP1	ZFP36									
ILF2	ZNF326										
PCBP2											
PPRC1											
RBM25											
RBM4											
RBM6											
RBMX											
SRSF1											
SRSF11											
SRSF2											
SRSF4											
ZC3H10											

***dC_dR_s** – downregulated circRNA, downregulated RBP with motifs enriched in circRNA sequences
***dC_uR_s** – downregulated circRNA, upegulated RBP with motifs enriched in circRNA sequences
***uC_dR_s** – upregulated circRNA, downregulated RBP with motifs enriched in circRNA sequences
***uC_uR_s** – upregulated circRNA, upregulated RBP with motifs enriched in circRNA sequences
***dC_dR_f** – downregulated circRNA, downregulated RBP with motifs enriched in circRNA flanking introns
***dC_uR_f** – downregulated circRNA, upregulated RBP with motifs enriched in circRNA flanking introns
***uC_dR_f** – upregulated circRNA, downregulated RBP with motifs enriched in circRNA flanking introns
***uC_uR_f** – upregulated circRNA, upregulated RBP with motifs enriched in circRNA flanking introns


a
expression
RBP-low
RBP-high
APOBEC3F
BICC1
CALR
CAVIN1
EIF2D
LSM5
NOP10
NSUN7
PRMT1:2
PTRH2
RUVBL2
SNRPF
SPATS2L
SRPRA
ZC3H12A
ZC3HAV1L
p = 0.014
p = 0.016
p = 0.049
p = 0.001
p = 0.001
p = 0.018
p = 0.039
p = 0.017
p = 0.024
p = 0.014
p = 0.022
p = 0.016
p = 0.036
p = 0.04
p = 0.033
p = 0.013
Survival probability
Time
0.00
0.25
0.50
0.75
1.00
0
50
100
150
b
expression
RBP-low
RBP-high
DDX25
DNAAF2
FASTK
IRT1
IRT5
MRPL41
MRPS24
NSUN5
RAN
RNH1
RPP25
THOC7
TXNL4A
ZNRD2
p = 0.023
p = 0.032
p = 0.045
p = 0.031
p = 0.043
p = 0.021
p = 0.015
p = 0.021
p = 0.025

Takara

RIN:9



Ambion 6051

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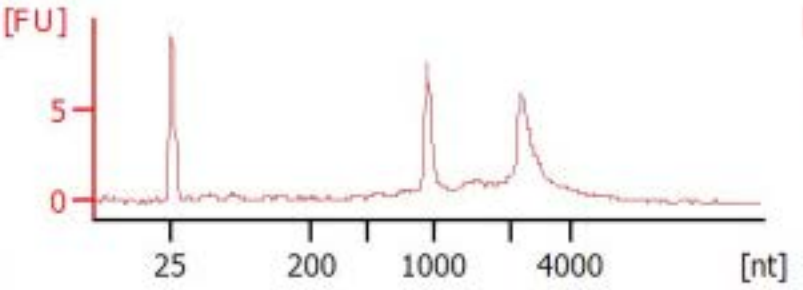

Ambion 6050

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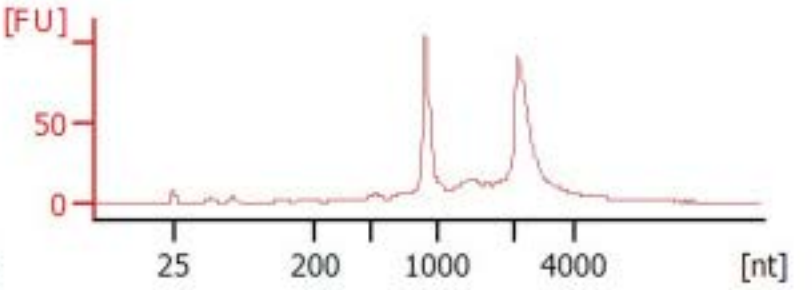
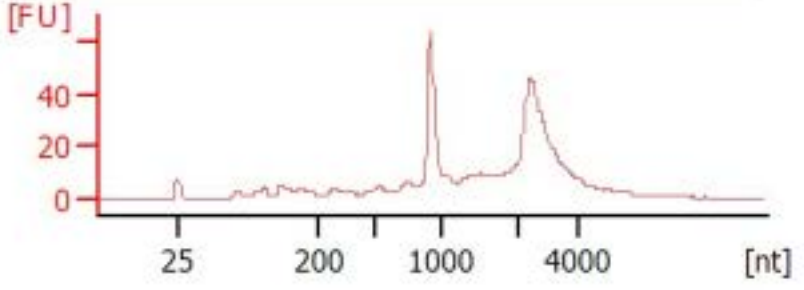
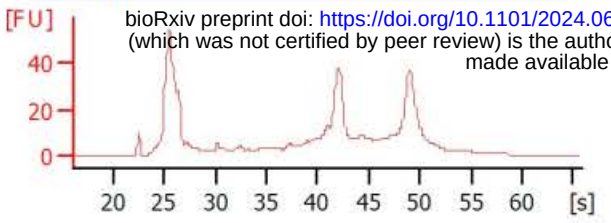
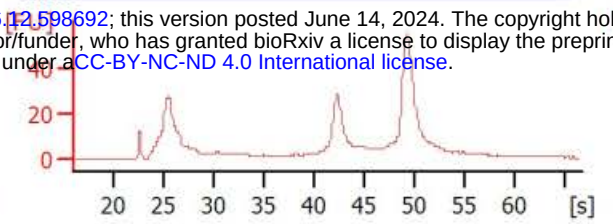


Clontech

RIN: 8.20



P1
RIN: 8.10


P2
RIN:9


P3
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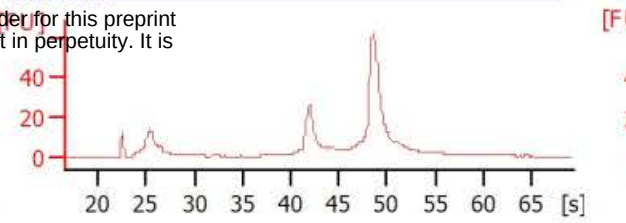
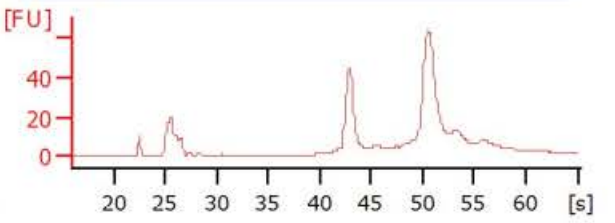
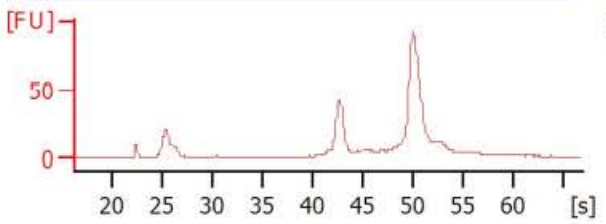
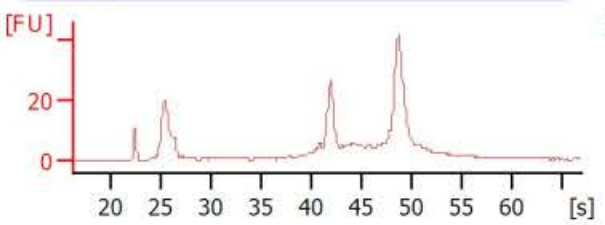
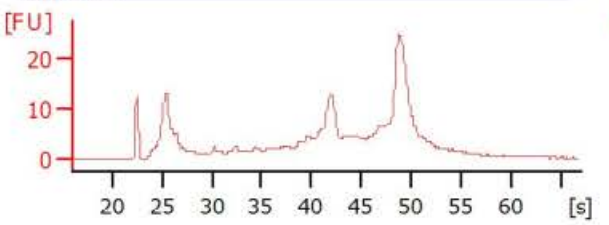
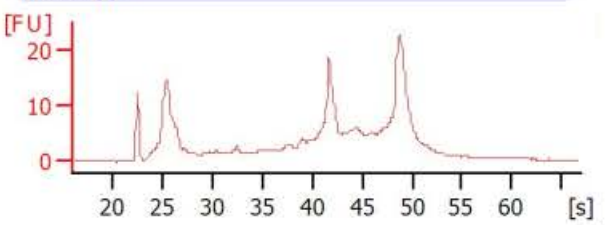


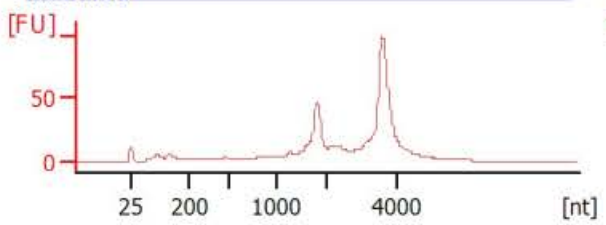
P4
RIN: 9.90


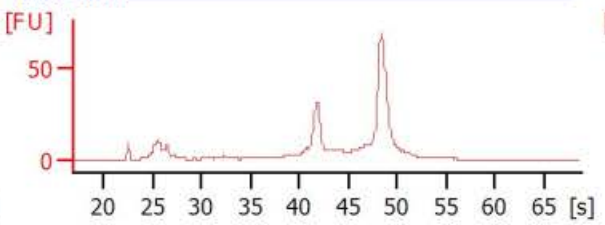
P5
RIN: 9.40


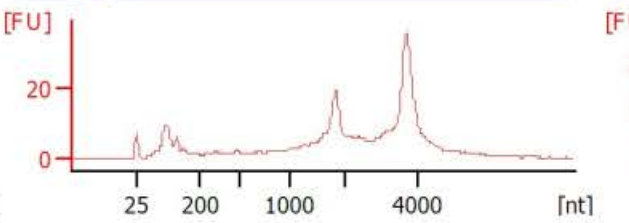
P6
RIN: 8.80


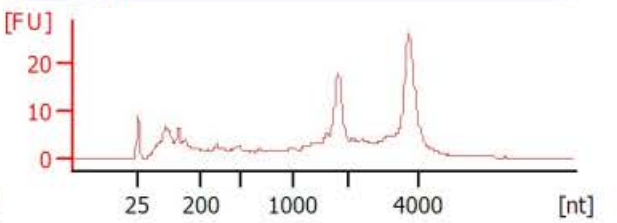
P7
RIN: 8.20


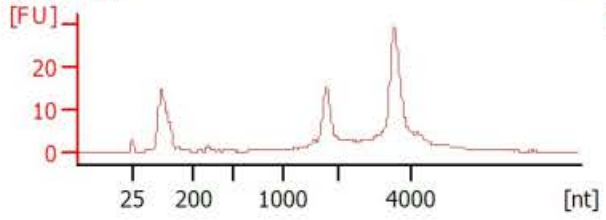
P8
RIN: 7.60


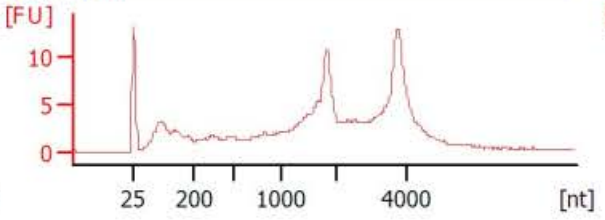
P9
RIN: 8.70


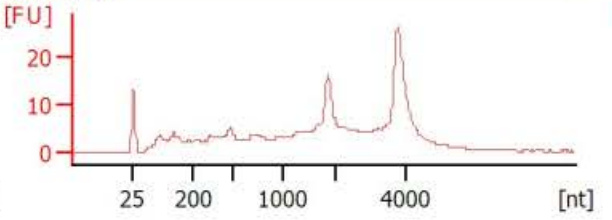
P10
RIN: 8.80


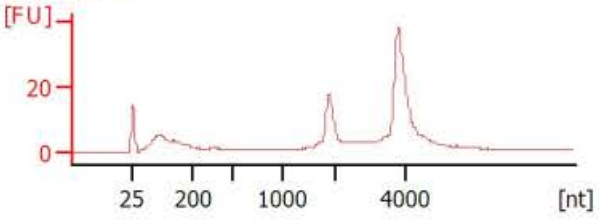
P11
RIN: 8.40


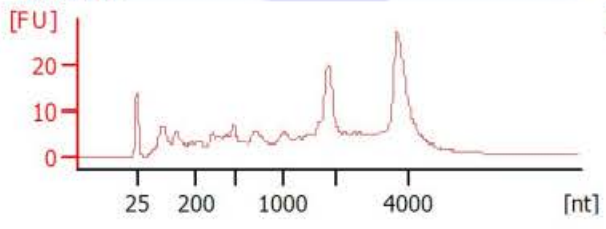
P12
RIN: 8.50


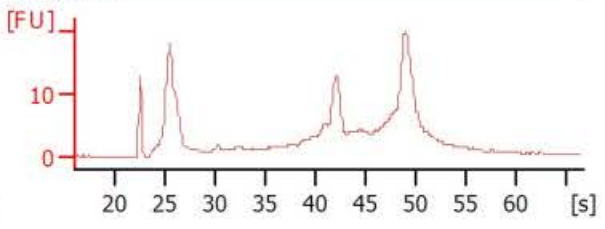
P13
RIN: 8.60


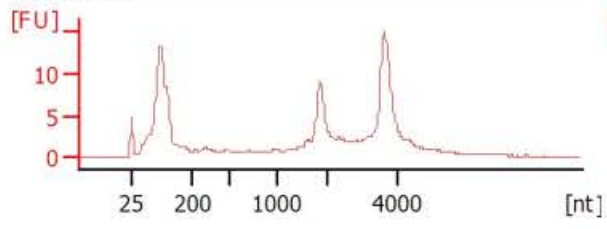
P14
RIN: 7.80


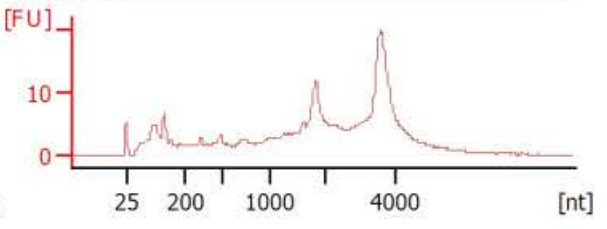
P15
RIN: 7.80


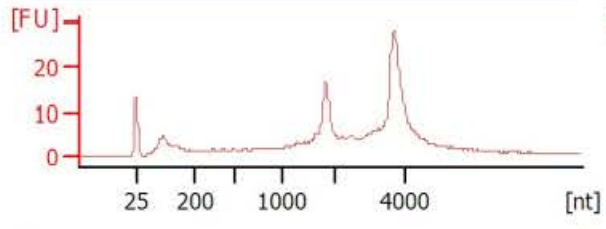
P16
RIN: 9.30


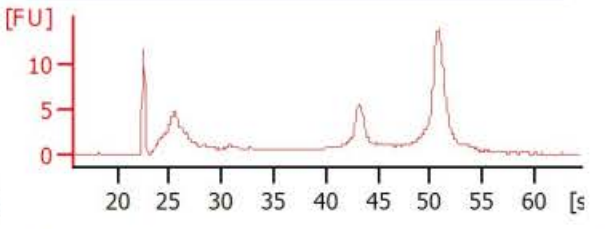
P17
RIN: 7.60


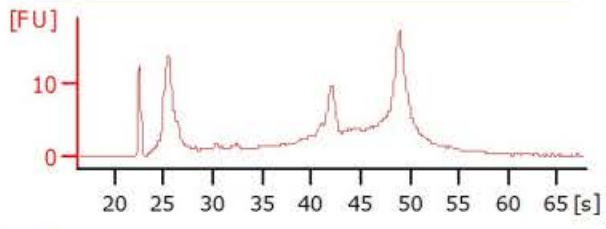
P18
RIN: 8.40


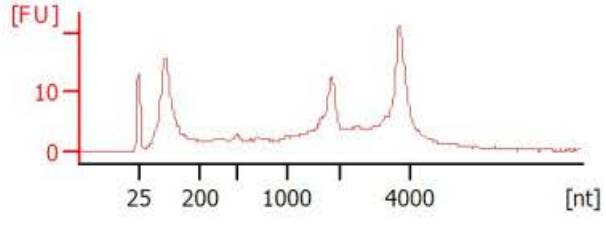
P19
RIN: 8.20


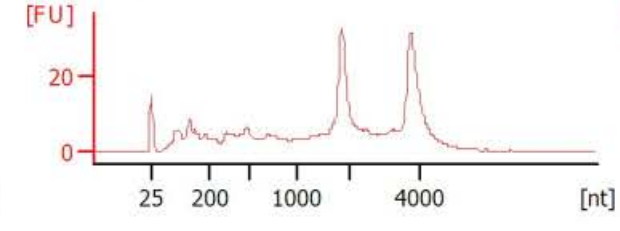
P20
RIN: 7.40


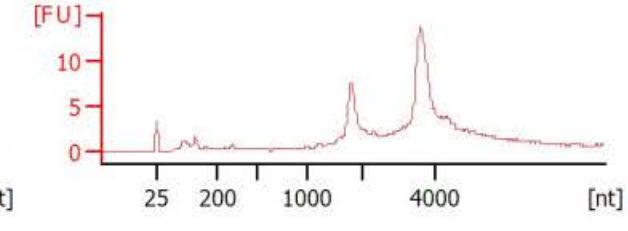
P21
RIN: 8.60


P22
RIN: 8.40


P23
RIN:8


R1
RIN: 7.50


R3
RIN: 7.70


R2
RIN: 8.90


Patient ID	Sex	Age	Symptoms				Tumor location (hemisphere)			TNM classifica	Extent of resection		RNA RIN value
			Headache	Dizziness	Aphasia	Other	Right	Left	Both		Total	Subtotal	
P01	Male	59	-	-	-	x	-	x	-	T3	-	x	8.1
P02	Female	58	-	-	x	-	-	x	-	T2	x	-	9
P03	Female	56	x	x	-	-	x	-	-	T3	x	-	9.2
P04	Female	65	x	x	-	-	x	-	-	-	-	x	9.9
P05	Male	-	-	-	x	x	-	x	-	-	-	x	9.4
P06	Male	-	-	-	-	x	x	-	-	-	x	-	8.8
P07	Female	58	-	-	-	x	x	-	-	-	x	-	8.2
P08	Male	61	-	-	-	x	-	x	-	T2	x	-	7.6
P09	Female	63	-	-	-	x	x	-	-	T1	x	-	8.7
P10	Male	52	x	-	-	x	x	-	-	T2	x	-	8.8
P11	Male	62	-	-	-	x	x	-	-	T2	x	-	8.4
P12	Male	67	No data available										8.5
P13	Male	49	-	-	x	-	-	x	-	T1	x	-	8.6
P14	Male	60	x	x	-	-	x	-	-	T1	x	-	7.8
P15	Female	70	x	x	-	x	-	-	x	T4	-	x	7.8
P16	Male	83	x	x	-	-	x	-	-	T3	x	-	9.3
P17	Male	64	-	-	x	-	-	-	x	T4	x	-	7.6
P18	Female	74	-	-	-	x	x	-	-	-	-	x	8.4
P19	Male	68	-	-	-	x	x	-	-	-	-	x	8.2
P20	Male	65	x	-	x	x	-	x	-	-	x	-	7.4
P21	Female	68	-	-	-	x	x		-	-	x	-	8.6
P22	Female		No data available										8.4
P23	Female	58	No data available										8
R1	Female	52	-	-	-	-					-	x	7.5
R2	Male	49	-	-	x	x	-	x	-	T3	x	-	8.9
R3	Male	47	-	-	-	x	x	-	-	-	x	-	7.7

Manufacturer	Product name	Catalog number	Lot number	Number of patients	Number of females	Number of males	RNA RIN value
Ambion	First Choice Human Brain Reference RNA	AM6050	1204014	23	10	13	9.1
Ambion	FirstChoice® Human Brain Reference Total RNA	6051	105P055201A	23	10	13	9
Clontech	Human Brain Total RNA	636530	1812054	3	0	3	8.2
Takara	Human Brain Total RNA	636530	1602002	3	0	3	8.8

Manufacturer	Product name	Catalog number	Lot number	Number of patients	Number of females	Number of males	RNA RIN value
Ambion	First Choice Human Brain Reference RNA	AM6050	1204014	23	10	13	9.1
Ambion	FirstChoice® Human Brain Reference Total RNA	6051	105P055201A	23	10	13	9
Clontech	Human Brain Total RNA	636530	1812054	3	0	3	8.2
Takara	Human Brain Total RNA	636530	1602002	3	0	3	8.8

	Circular RNA				Linear RNA			
Gene ID	**hsa name**	**Chromosomal coordinates**	**Fold change RNA-seq**	**Fold change qPCR**	**RefSeq ID**	**Chromosomal coordinates**	**Fold change RNA-seq**	**Fold change qPCR**
CADPS2	hsa_circ_0133205	chr7:122255234-122269382	-3,93607	-3,79000	NM_001167940.2	chr7:121958465-122526514	-3,05025	-0,82517
EPB41L5	hsa_circ_0008278	chr2:120885263-120932580	-3,88636	-4,49000	NM_020909.4	chr2:120770653-120936695	-1,47374	2,27899
UNC13C	hsa_circ_0103896	chr15:54304844-54308083	-4,09834	-5,07000	NM_001080534.3	chr15:54270638-54920803	-4,42962	-3,08617
USP45	hsa_circ_0077426	chr6:99912479-99958106	-4,99468	-0,03000	NM_001080481.3	chr6:99880201-99963299	-1,38392	-0,43514
ARID1A	hsa_circ_0008494	chr1:27056141-27059283	2,63866	0,35705	NM_006015.6	chr1:26693236-26782104	1,02467	2,28585
GUSBP1	hsa_circ_0128780	chr5:21491429-21497305	4,47198	2,90187	NR_027028.3	chr5:21459622-21497305	ns	2,15453
PLOD2	hsa_circ_0141963	chr3:145838898-145842016	2,78193	2,37705	NM_182943.3	chr3:146069440-146163653	2,34880	4,43969
VCAN	hsa_circ_0073237	chr5:82832825-82838087	3,87227	4,54000	NM_004385.5	chr5: 83471618-83582303	2,42000	4,44258
EGFR	hsa_circ_0080229	chr7:55231426-55233130	11,38770	12,83759	NM_005228.5	chr7:55019017-55211628	4,17302	1,50212
HLA-B	No record available	chr6:31237743-31322442	6,92219	-0,39654	NM_005514	chr6:31237743-3132242	2,35819	-0,61401
Intergenic circRNA	No record available	chr6:29913011-29976954	7,17446	0,31399	-	-	-	-

ns – no statistical significance for $p \geq 0.05$

neuVSothersGBMres

seqnames	start	end	width	strand	CLR	lfc	pval	fdr	ENSEMBL	geneName
chr13	101997617	102051516	53900	-	0,105	5,687358533	6,83606E-09	2,76113E-06	ENSG00000102452	NALCN
chr6	170846322	170858201	11880	-	0,045	3,955494779	9,7373E-09	2,76113E-06	ENSG00000008018	PSMB1
chr3	183368084	183390272	22189	+	0,103	4,605576186	1,0647E-08	2,76113E-06	ENSG00000114796	KLHL24
chr2	120885264	120932580	47317	+	0,222	4,617070935	2,9503E-08	5,04834E-06	ENSG00000115109	EPB41L5
chr3	183361268	183390272	29005	+	0,136	3,83319274	3,62364E-08	5,04834E-06	ENSG00000114796	KLHL24
chr3	27420740	27465643	44904	-	0,105	4,709664508	3,89332E-08	5,04834E-06	ENSG00000033867	SLC4A7
chr8	142264088	142264728	641	-	1	3,063474475	1,64285E-07	1,82591E-05	ENSG00000022567	SLC45A4
chr6	62362160	62407158	44999	-	0,909	4,928230881	1,99074E-07	1,936E-05	n/a	
chr6	54013854	54067031	53178	+	0,4	5,166361442	3,26084E-07	2,81882E-05	ENSG00000146147	MLIP
chr12	1399018	1481143	82126	+	0,091	3,43193012	3,84713E-07	2,99307E-05	ENSG00000082805	ERC1
chr9	88190230	88248289	58060	-	0,171	4,063879351	8,13574E-07	5,71873E-05	ENSG00000135049	AGTPBP1
chr11	58317259	58318705	1447	-	0,357	4,602237706	8,82066E-07	5,71873E-05	ENSG00000110031	LPXN
chr5	113740135	113740553	419	+	0,769	3,681516973	1,30918E-06	7,83495E-05	ENSG00000080709	KCNN2
chr2	2840691	2842060	1370	-	0,316	5,689434335	1,6356E-06	8,49899E-05	ENSG00000237720	
chr12	1399018	1519619	120602	+	0,177	5,421173295	1,63862E-06	8,49899E-05	ENSG00000082805	ERC1
chr10	116879949	116931050	51102	+	0,32	3,148113792	2,04735E-06	9,95524E-05	ENSG00000107518	ATRNL1
chr7	82763566	82764972	1407	-	0,364	3,746826896	2,55915E-06	0,000117119	ENSG00000186472	PCLO
chr6	54013854	54095715	81862	+	0,571	5,321185378	3,04547E-06	0,000131632	ENSG00000146147	MLIP
chr3	183361268	183369064	7797	+	0,07	2,854247068	8,39473E-06	0,000343742	ENSG00000114796	KLHL24
chr7	22330794	22357656	26863	-	0,571	4,251590287	9,81878E-06	0,000381951	ENSG00000136237	RAPGEF5
chr1	32381496	32385259	3764	-	0,667	2,023764581	1,1983E-05	0,000443942	ENSG00000184007	PTP4A2
chr5	79745410	79770649	25240	+	0,274	4,032438375	1,34184E-05	0,000474525	ENSG00000039319	ZFYVE16
chr15	67524152	67529158	5007	-	0,125	2,341385628	1,70285E-05	0,000567904	ENSG00000103591	AAGAB
chr6	136709531	136710655	1125	-	0,138	3,303743339	1,75189E-05	0,000567904	ENSG00000135525	MAP7
chr1	243708812	243859018	150207	-	0,135	2,687572131	2,04721E-05	0,000619259	ENSG00000117020	AKT3
chr10	52193236	52350007	156772	-	0,545	4,81732562	2,0695E-05	0,000619259	ENSG00000198964	SGMS1
chr9	26424107	26569673	145567	-	0,312	5,289695405	2,24047E-05	0,000645589	n/a	
chr15	33149216	33194241	45026	-	0,4	3,905815301	3,20048E-05	0,000860736	ENSG00000248905	FMN1
chr7	22347958	22357656	9699	-	0,5	3,911370045	3,2084E-05	0,000860736	ENSG00000136237	RAPGEF5
chr6	73016961	73043538	26578	+	0,526	3,258524438	3,99216E-05	0,0010353	ENSG00000079841	RIMS1
chr8	105080740	105161076	80337	+	1	3,597941612	4,23829E-05	0,001046778	ENSG00000176406	RIMS2
chr5	10415600	10417516	1917	+	0,052	2,115779451	4,30551E-05	0,001046778	ENSG00000145495	MARCHF6
chr13	84376512	84389879	13368	-	0,889	4,292221494	5,15011E-05	0,001214178	n/a	
chr18	8718422	8720494	2073	+	0,4	3,002830577	5,94144E-05	0,001359541	ENSG00000168502	MTCL1
chr18	19345733	19359646	13914	+	0,298	1,950692771	7,0778E-05	0,001573294	ENSG00000101752	MIB1
chr11	46098305	46113774	15470	-	0,169	1,776897459	7,61272E-05	0,001645193	ENSG00000135365	PHF21A
chr6	107824861	107827631	2771	+	0,197	2,079324083	8,75885E-05	0,001841726	ENSG00000112320	SOBP
chr10	15875629	15889942	14314	-	0,148	2,420495441	0,000106484	0,002180128	ENSG00000148481	MINDY3
chr14	99924616	99932150	7535	-	0,146	1,684126126	0,0001148	0,002290111	ENSG00000183576	SETD3
chr7	22306583	22357656	51074	-	0,273	3,824113557	0,00014436	0,002807806	ENSG00000136237	RAPGEF5
chr3	18419662	18462483	42822	-	0,144	3,951722322	0,000175025	0,003321201	ENSG00000182568	SATB1
chr14	32559708	32586493	26786	+	0,273	1,680381595	0,000181317	0,003358681	ENSG00000100852	ARHGAP5
chr14	93760204	93762503	2300	-	0,231	2,975823129	0,000248786	0,004501288	ENSG00000011114	BTBD7
chr9	103261047	103312442	51396	+	0,2	3,480834438	0,00030921	0,005372671	ENSG00000241697	TMEFF1
chrX	139865340	139866824	1485	+	0,911	2,228808943	0,000310759	0,005372671	ENSG00000203930	LINC00632
chr2	40366541	40405633	39093	-	0,279	4,187347741	0,000340041	0,005751134	ENSG00000183023	SLC8A1
chr6	170852689	170858201	5513	-	0,06	3,120004332	0,00035769	0,005920912	ENSG00000008018	PSMB1
chr6	136704809	136710655	5847	-	0,142	4,177726512	0,000408704	0,006624414	ENSG00000135525	MAP7
chr15	54304845	54308083	3239	+	0,571	3,891185257	0,000538629	0,008552107	ENSG00000137766	UNC13C
chr4	52729603	52758017	28415	+	0,08	2,237421408	0,000568347	0,008641482	ENSG00000109184	DCUN1D4
chr8	141749117	141762415	13299	-	0,07	2,575411686	0,000569392	0,008641482	ENSG00000169398	PTK2
chr1	8601273	8617582	16310	-	0,152	1,806280991	0,00057758	0,008641482	ENSG00000142599	RERE
chr14	104245082	104263855	18774	-	0,381	3,418653985	0,000750489	0,010957512	ENSG00000088808	PPP1R13B
chr9	103261047	103279053	18007	+	0,217	1,873800556	0,000760547	0,010957512	ENSG00000241697	TMEFF1
chr7	14613837	14712652	98816	-	0,364	2,636741417	0,000916648	0,012966407	ENSG00000136267	DGKB
chr2	72945232	72960247	15016	-	0,547	1,438495517	0,001148258	0,01595258	ENSG00000144036	EXOC6B
chr14	97299804	97327072	27269	+	0,2	2,31095923	0,001213125	0,016558098	ENSG00000100749	VRK1
chr12	100166700	100175875	9176	-	0,6	2,940845415	0,001283174	0,017212233	ENSG00000185046	ANKS1B
chr2	168920010	168986268	66259	-	0,429	1,555020917	0,00144853	0,01910096	ENSG00000198648	STK39
chr2	207144264	207162097	17834	+	0,125	3,208150864	0,001678295	0,021464066	ENSG00000204186	ZDBF2
chr7	38050523	38053183	2661	+	0,933	3,575119826	0,00171814	0,021464066	ENSG00000106483	SFRP4
chr9	37126309	37127260	952	+	0,3	2,391414649	0,001747904	0,021464066	ENSG00000147905	ZCCHC7
chrX	110385324	110416309	30986	+	0,211	2,600384509	0,001782976	0,021464066	ENSG00000077264	PAK3
chr14	66028055	66028484	430	+	0,27	2,412641838	0,001789829	0,021464066	ENSG00000033170	FUT8
chr6	158703295	158735300	32006	+	0,364	1,473241057	0,00179327	0,021464066	ENSG00000130338	TULP4
chr10	86198268	86237420	39153	+	0,3	1,870019922	0,001918997	0,022620906	ENSG00000107771	CCSER2
chr16	53288350	53308214	19865	+	0,04	2,925267877	0,00237183	0,027541547	ENSG00000177200	CHD9
chr7	86223627	86226365	2739	-	1	2,915965361	0,002483987	0,02821497	n/a	
chr12	12397196	12397589	394	-	0,198	1,736377083	0,002502356	0,02821497	ENSG00000070018	LRP6
chr1	243776973	243859018	82046	-	0,065	2,261623707	0,002660108	0,029565199	ENSG00000117020	AKT3
chr14	32559708	32563592	3885	+	0,146	1,788528495	0,002809101	0,0303872	ENSG00000100852	ARHGAP5
chr2	136432902	136437894	4993	+	0,207	1,621839528	0,002813168	0,0303872	ENSG00000048991	R3HDM1
chr3	157839892	157841780	1889	+	0,129	1,674350904	0,002878342	0,0303872	ENSG00000174891	RSRC1
chr10	112723883	112745523	21641	+	0,235	1,915700248	0,002890299	0,0303872	ENSG00000108061	SHOC2
chr22	28692186	28693840	1655	-	0,162	1,859169432	0,002952538	0,030627666	ENSG00000100154	TTC28
chr11	128993341	129034322	40982	-	0,312	2,975180961	0,003084831	0,031419117	ENSG00000134909	ARHGAP32
chr15	63988323	64008672	20350	-	0,255	1,560946522	0,003109604	0,031419117	ENSG00000103657	HERC1
chr3	66286968	66313803	26836	+	0,417	2,25423707	0,003203301	0,031950878	ENSG00000144741	SLC25A26
chr10	116879949	117001514	121566	+	0,089	3,350245595	0,003356802	0,03305813	ENSG00000107518	ATRNL1
chr13	78293667	78327493	33827	+	0,152	1,734048851	0,00353967	0,034285692	ENSG00000139737	SLAIN1
chr18	54426096	54448887	22792	+	0,143	2,494371401	0,00356959	0,034285692	ENSG00000091157	WDR7
chr3	129546646	129551669	5024	-	0,267	1,970306773	0,003665235	0,034758765	ENSG00000172765	TMCC1
chr2	72958136	72960247	2112	-	0,174	1,82741032	0,003708197	0,034758765	ENSG00000144036	EXOC6B
chr18	29691717	29704808	13092	+	0,581	2,717263365	0,004221218	0,038598644	ENSG00000134758	RNF138
chr18	45391430	45423180	31751	-	0,052	2,790593859	0,004230583	0,038598644	ENSG00000175387	SMAD2
chr8	62593527	62596747	3221	-	0,129	1,686486894	0,004266688	0,038598644	ENSG00000198363	ASPH
chr10	116879949	116975638	95690	+	0,323	2,504294172	0,004320213	0,038633631	ENSG00000107518	ATRNL1
chr5	36953720	36976504	22785	+	0,097	1,431578198	0,005318323	0,047018814	ENSG00000164190	NIPBL

neuVSothersGBMres

chr6	76344423	76388643	44221	+	0,08	2,057179159	0,005407217	0,047267582	ENSG00000112701	SENP6
chr8	141745350	141762415	17066	-	0,043	2,75439305	0,005526409	0,047772734	ENSG00000169398	PTK2

mesVSothersGBMres

seqnames	start	end	width	strand	CLR	lfc	pval	fdr	ENSEMBL	geneName
chr13	110827687	110829071	1385	-	0,053	8,00650727	1,3333E-06	0,000651962	ENSG00000187498	COL4A1
chr7	94047043	94049596	2554	-	0,021	7,840550664	1,67599E-06	0,000651962	ENSG00000164692	COL1A2
chr11	120916383	120930794	####	+	0,167	-2,618296874	5,22973E-05	0,013069658	ENSG00000154114	TBCEL
chr8	105080740	105161076	####	+	1	-5,921963777	6,71962E-05	0,013069658	ENSG00000176406	RIMS2
chr3	171965323	171969331	4009	+	0,429	1,321684286	0,000254304	0,039569779	ENSG00000075420	FNDC3B
chr20	34309662	34313077	3416	-	0,125	-4,57441018	0,000377026	0,044854413	ENSG00000131051	RBM39
chr5	72370569	72373320	2752	+	0,435	1,295700561	0,000403574	0,044854413	ENSG00000157107	FCHO2
chr12	69644909	69656342	####	+	0,055	3,243730437	0,000564496	0,049634316	ENSG00000111605	CPSF6
chr3	56694759	56707753	####	-	0,19	-2,482971844	0,000636479	0,049634316	ENSG00000163946	TASOR
chr17	28011581	28030080	####	-	0,19	2,138788477	0,000637973	0,049634316	ENSG00000141298	SSH2

ass_rbp

RBP	pvalue.ass	SYMBOL	n_group
ENSG00000004534	0,020578807	RBM6	2
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ENSG00000011243	0,057761447	AKAP8L	2
ENSG00000011304	0,731756685	PTBP1	2
ENSG00000012048	0,488484745	BRCA1	2
ENSG00000020577	0,108423932	SAMD4A	2
ENSG00000021776	0,957366961	AQR	2
ENSG00000023191	0,250124641	RNH1	2
ENSG00000037241	0,469403619	RPL26L1	2
ENSG00000041802	0,829079549	LSG1	2
ENSG00000047315	0,49759389	POLR2B	2
ENSG00000048828	0,469403619	FAM120A	2
ENSG00000048991	0,006074548	R3HDM1	2
ENSG00000051596	0,592786454	THOC3	2
ENSG00000055332	0,154473554	EIF2AK2	2
ENSG00000055917	0,418279569	PUM2	2
ENSG00000056586	0,435100901	RC3H2	2
ENSG00000058729	0,592786454	RIOK2	2
ENSG00000059378	0,686168216	PARP12	2
ENSG00000059588	0,312226848	TARBP1	2
ENSG00000061794	0,404506065	MRPS35	2
ENSG00000062582	0,049296155	MRPS24	2
ENSG00000063046	0,342592939	EIF4B	2
ENSG00000063177	0,250124641	RPL18	2
ENSG00000063244	0,146834519	U2AF2	2
ENSG00000065457	0,575120851	ADAT1	2
ENSG00000067248	0,606269411	DHX29	2
ENSG00000067334	0,58538203	DNTTIP2	2
ENSG00000067533	0,957366961	RRP15	2
ENSG00000071626	0,801810074	DAZAP1	2
ENSG00000072364	0,723040907	AFF4	2
ENSG00000074071	0,223191711	MRPS34	2
ENSG00000075151	0,606269411	EIF4G3	2
ENSG00000075975	0,966141153	MKRN2	2
ENSG00000076108	0,492064899	BAZ2A	2
ENSG00000076924	0,694288351	XAB2	2
ENSG00000077348	0,488484745	EXOSC5	2
ENSG00000078687	0,323707606	TNRC6C	2
ENSG00000079785	0,288144259	DDX1	2
ENSG00000080007	0,090903107	DDX43	2
ENSG00000080608	0,723040907	PUM3	2
ENSG00000082515	0,956169331	MRPL22	2
ENSG00000083223	0,469403619	ZCCHC6	2
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ENSG00000083845	0,592786454	RPS5	2
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ENSG00000087365	0,528439641	SF3B2	2
ENSG00000087995	0,38283849	METTL2A	2

ENSG00000088247	0,480555433	KHSRP	2
ENSG00000089009	0,673441635	RPL6	2
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ENSG00000089157	0,373026335	RPLP0	2
ENSG00000090097	0,402468069	PCBP4	2
ENSG00000090263	0,316909836	MRPS33	2
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ENSG00000091127	0,492064899	PUS7	2
ENSG00000092199	0,829079549	HNRNPC	2
ENSG00000092208	0,488484745	GEMIN2	2
ENSG00000092847	0,961230483	AGO1	2
ENSG00000095627	0,621398465	TDRD1	2
ENSG00000096080	0,38283849	MRPS18A	2
ENSG00000099381	0,723040907	SETD1A	2
ENSG00000099899	0,090903107	TRMT2A	2
ENSG00000100028	0,070252278	SNRPD3	2
ENSG00000100056	0,76292291	DGCR14	2
ENSG00000100142	0,654957627	POLR2F	2
ENSG00000100226	0,823170425	GTPBP1	2
ENSG00000100227	0,418279569	POLDIP3	2
ENSG00000100354	0,536196196	TNRC6B	2
ENSG00000100410	0,606269411	PHF5A	2
ENSG00000100416	0,592786454	TRMU	2
ENSG00000100461	0,24155334	RBM23	2
ENSG00000100601	0,829079549	ALKBH1	2
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ENSG00000101347	0,219920247	SAMHD1	2
ENSG00000101361	0,449849983	NOP56	2
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ENSG00000101782	0,829079549	RIOK3	2
ENSG00000101811	0,829079549	CSTF2	2
ENSG00000101888	0,323707606	NXT2	2
ENSG00000101916	0,192782278	TLR8	2
ENSG00000102053	0,052947117	ZC3H12B	2
ENSG00000102081	0,111078139	FMR1	2
ENSG00000102241	0,488484745	HTATSF1	2
ENSG00000102786	0,967305004	INTS6	2
ENSG00000102898	0,24652005	NUTF2	2
ENSG00000103342	0,183749599	GSPT1	2
ENSG00000104356	0,956169331	POP1	2
ENSG00000104408	0,592786454	EIF3E	2
ENSG00000104613	0,606269411	INTS10	2
ENSG00000104835	0,24155334	SARS2	2
ENSG00000104897	0,480555433	SF3A2	2
ENSG00000104967	0,112993652	NOVA2	2
ENSG00000105171	0,559962154	POP4	2

ENSG00000105193	0,592786454	RPS16	2
ENSG00000105258	0,488484745	POLR2I	2
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ENSG00000105323	0,227198262	HNRNPUL1	2
ENSG00000105364	0,480555433	MRPL4	2
ENSG00000105447	0,348735756	GRWD1	2
ENSG00000105576	0,029330017	TNPO2	2
ENSG00000105618	0,350354656	PRPF31	2
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ENSG00000107105	0,04843365	ELAVL2	2
ENSG00000107164	0,449849983	FUBP3	2
ENSG00000107290	0,469403619	SETX	2
ENSG00000107581	0,654957627	EIF3A	2
ENSG00000107614	0,101991278	TRDMT1	2
ENSG00000107833	0,773267653	NPM3	2
ENSG00000107864	0,04843365	CPEB3	2
ENSG00000107937	0,823170425	GTPBP4	2
ENSG00000107951	0,575120851	MTPAP	2
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ENSG00000108298	0,267967643	RPL19	2
ENSG00000108312	0,575120851	UBTF	2
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ENSG00000108561	0,488484745	C1QBP	2
ENSG00000108883	0,956169331	EFTUD2	2
ENSG00000109606	0,469403619	DHX15	2
ENSG00000109832	0,01630266	DDX25	2
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ENSG00000110104	0,686168216	CCDC86	2
ENSG00000110107	0,092382616	PRPF19	2
ENSG00000110619	0,200818792	CARS	2
ENSG00000110958	0,981577129	PTGES3	2
ENSG00000111331	0,101991278	OAS3	2
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ENSG00000111880	0,288144259	RNGTT	2
ENSG00000112031	0,205008486	MTRF1L	2
ENSG00000112183	0,682932969	RBM24	2
ENSG00000112855	0,686168216	HARS2	2
ENSG00000112941	0,592786454	PAPD7	2
ENSG00000113272	0,536196196	THG1L	2
ENSG00000113360	0,418279569	DROSHA	2
ENSG00000113407	0,686168216	TARS	2
ENSG00000113460	0,592786454	BRIX1	2
ENSG00000113649	0,312226848	TCERG1	2
ENSG00000114416	0,592786454	FXR1	2
ENSG00000114686	0,350354656	MRPL3	2
ENSG00000114784	0,116301347	EIF1B	2

ENSG00000114942	0,132853917	EEF1B2	2
ENSG00000115053	0,883090109	NCL	2
ENSG00000115128	0,723040907	SF3B6	2
ENSG00000115364	0,164102912	MRPL19	2
ENSG00000115524	0,956169331	SF3B1	2
ENSG00000115816	0,823170425	CEBPZ	2
ENSG00000115866	0,350645042	DARS	2
ENSG00000115875	0,829079549	SRSF7	2
ENSG00000116221	0,592786454	MRPL37	2
ENSG00000116350	0,956169331	SRSF4	2
ENSG00000116560	0,418279569	SFPQ	2
ENSG00000116668	0,697644867	SWT1	2
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ENSG00000116898	0,592786454	MRPS15	2
ENSG00000117133	0,492064899	RPF1	2
ENSG00000117395	0,829079549	EBNA1BP2	2
ENSG00000117614	0,956169331	SYF2	2
ENSG00000117751	0,956169331	PPP1R8	2
ENSG00000117877	0,507256318	CD3EAP	2
ENSG00000118197	0,606269411	DDX59	2
ENSG00000119203	0,49759389	CPSF3	2
ENSG00000119314	0,654957627	PTBP3	2
ENSG00000119392	0,723040907	GLE1	2
ENSG00000119446	0,469403619	RBM18	2
ENSG00000119707	0,213632162	RBM25	2
ENSG00000119917	0,316909836	IFIT3	2
ENSG00000120688	0,258576264	WBP4	2
ENSG00000120705	0,673441635	ETF1	2
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ENSG00000121057	0,01630266	AKAP1	2
ENSG00000121390	0,295577657	PSPC1	2
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ENSG00000122026	0,981577129	RPL21	2
ENSG00000122068	0,829079549	FYTTD1	2
ENSG00000122140	0,488484745	MRPS2	2
ENSG00000122435	0,645939423	TRMT13	2
ENSG00000122729	0,316909836	ACO1	2
ENSG00000122870	0,686168216	BICC1	2
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ENSG00000123636	0,26868431	BAZ2B	2
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ENSG00000123908	0,418279569	AGO2	2
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ENSG00000124279	0,956169331	FASTKD3	2
ENSG00000124701	0,846741067	APOBEC2	2
ENSG00000124784	0,773267653	RIOK1	2
ENSG00000125352	0,755319488	RNF113A	2
ENSG00000125485	0,200818792	DDX31	2
ENSG00000125676	0,829079549	THOC2	2
ENSG00000125743	0,559962154	SNRPD2	2
ENSG00000125755	0,352869437	SYMPK	2

ENSG00000125835	0,43655782	SNRPB	2
ENSG00000125844	0,245861244	RRBP1	2
ENSG00000125944	0,956169331	HNRNPR	2
ENSG00000125970	0,721703421	RALY	2
ENSG00000126814	0,127303204	TRMT5	2
ENSG00000128016	0,090903107	ZFP36	2
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ENSG00000129084	0,956169331	PSMA1	2
ENSG00000129538	0,028259446	RNASE1	2
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ENSG00000130255	0,090903107	RPL36	2
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ENSG00000130713	0,49759389	EXOSC2	2
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ENSG00000130816	0,823170425	DNMT1	2
ENSG00000130921	0,38283849	C12orf65	2
ENSG00000130956	0,26868431	HABP4	2
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ENSG00000131469	0,829079549	RPL27	2
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ENSG00000131773	0,600252591	KHDRBS3	2
ENSG00000132507	0,250124641	EIF5A	2
ENSG00000132661	0,829079549	NXT1	2
ENSG00000132740	0,404506065	IGHMBP2	2
ENSG00000132953	0,295577657	XPO4	2
ENSG00000133226	0,430716066	SRRM1	2
ENSG00000133706	0,735503221	LARS	2
ENSG00000134030	0,04843365	CTIF	2
ENSG00000134597	0,823170425	RBMX2	2
ENSG00000134644	0,26868431	PUM1	2
ENSG00000134684	0,649438117	YARS	2
ENSG00000134697	0,829079549	GNL2	2
ENSG00000134744	0,164102912	ZCCHC11	2
ENSG00000134874	0,166544911	DZIP1	2
ENSG00000135097	0,402468069	MSI1	2
ENSG00000135316	0,387502561	SYNCRIP	2
ENSG00000135482	0,166544911	ZC3H10	2
ENSG00000135763	0,072191923	URB2	2
ENSG00000135972	0,304717938	MRPS9	2
ENSG00000136231	0,004650069	IGF2BP3	2
ENSG00000136270	0,350645042	TBRG4	2
ENSG00000136522	0,821778914	MRPL47	2
ENSG00000136527	0,592786454	TRA2B	2
ENSG00000136628	0,606269411	EPRS	2
ENSG00000136718	0,966141153	IMP4	2
ENSG00000136807	0,966141153	CDK9	2
ENSG00000136942	0,250124641	RPL35	2
ENSG00000137074	0,686168216	APTX	2

ENSG00000137574	0,350354656	TGS1	2
ENSG00000137996	0,883090109	RTCA	2
ENSG00000138376	0,24155334	BARD1	2
ENSG00000138385	0,059192946	SSB	2
ENSG00000138668	0,49759389	HNRNPD	2
ENSG00000138757	0,070252278	G3BP2	2
ENSG00000139343	0,575120851	SNRPF	2
ENSG00000139546	0,318597342	TARBP2	2
ENSG00000139675	0,144707639	HNRNPA1L2	2
ENSG00000139746	0,304717938	RBM26	2
ENSG00000139767	0,006074548	SRRM4	2
ENSG00000140105	0,755319488	WARS	2
ENSG00000140319	0,492064899	SRP14	2
ENSG00000140948	0,304717938	ZCCHC14	2
ENSG00000141499	0,24155334	WRAP53	2
ENSG00000141543	0,956169331	EIF4A3	2
ENSG00000141646	0,760627951	SMAD4	2
ENSG00000142207	0,101991278	URB1	2
ENSG00000142528	0,488484745	ZNF473	2
ENSG00000142541	0,223191711	RPL13A	2
ENSG00000142544	0,090903107	CTU1	2
ENSG00000142676	0,592786454	RPL11	2
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ENSG00000161813	0,19170407	LARP4	>2

ENSG00000162231	0,560857865	NXF1	>2
ENSG00000162396	0,062169863	PARS2	>2
ENSG00000162437	0,010611989	RAVER2	>2
ENSG00000162613	0,664717986	FUBP1	>2
ENSG00000163214	0,70353287	DHX57	>2
ENSG00000163412	0,233540041	EIF4E3	>2
ENSG00000163634	0,342893675	THOC7	>2
ENSG00000163798	0,183306556	SLC4A1AP	>2
ENSG00000164022	0,617950901	AIMP1	>2
ENSG00000164338	0,370664814	UTP15	>2
ENSG00000164609	0,086725079	SLU7	>2
ENSG00000164941	0,948192969	INTS8	>2
ENSG00000164967	0,73856537	RPP25L	>2
ENSG00000165119	0,247762705	HNRNPK	>2
ENSG00000165502	0,314808843	RPL36AL	>2
ENSG00000165526	0,899189541	RPUSD4	>2
ENSG00000165675	0,724962816	ENOX2	>2
ENSG00000165732	0,386237567	DDX21	>2
ENSG00000166197	0,072975223	NOLC1	>2
ENSG00000166938	0,797999331	DIS3L	>2
ENSG00000166949	0,65083155	SMAD3	>2
ENSG00000167088	0,499178439	SNRPD1	>2
ENSG00000167118	0,614961467	URM1	>2
ENSG00000167136	0,429955082	ENDOG	>2
ENSG00000167264	0,112777325	DUS2	>2
ENSG00000167526	0,273063328	RPL13	>2
ENSG00000168002	0,394640211	POLR2G	>2
ENSG00000168028	0,497048595	RPSA	>2
ENSG00000168438	0,656594197	CDC40	>2
ENSG00000168488	0,770462624	ATXN2L	>2
ENSG00000169249	0,607363852	ZRSR2	>2
ENSG00000169251	0,962794334	NMD3	>2
ENSG00000169288	0,929343121	MRPL1	>2
ENSG00000169371	0,789002176	SNUPN	>2
ENSG00000169413	0,004045664	RNASE6	>2
ENSG00000169564	0,248667025	PCBP1	>2
ENSG00000169957	0,837184985	ZNF768	>2
ENSG00000170365	0,100702826	SMAD1	>2
ENSG00000171490	0,230580153	RSL1D1	>2
ENSG00000171960	0,515683989	PPIH	>2
ENSG00000172062	0,20734723	SMN1	>2
ENSG00000172346	0,017814896	CSDC2	>2
ENSG00000172409	0,598071908	CLP1	>2
ENSG00000172432	0,207259188	GTPBP2	>2
ENSG00000173141	0,707668159	MRPL57	>2
ENSG00000173809	0,190415368	TDRD12	>2
ENSG00000174547	0,558786494	MRPL11	>2
ENSG00000174840	0,787459558	PDE12	>2
ENSG00000175376	0,785819699	EIF1AD	>2
ENSG00000175387	0,656093076	SMAD2	>2
ENSG00000175467	0,702916805	SART1	>2

ENSG00000175573	0,685070478	C11orf68	>2
ENSG00000176444	0,703730186	CLK2	>2
ENSG00000177483	0,341154595	RBM44	>2
ENSG00000177613	0,092511312	CSTF2T	>2
ENSG00000178199	0,029500303	ZC3H12D	>2
ENSG00000178896	0,843639441	EXOSC4	>2
ENSG00000179151	0,807018147	EDC3	>2
ENSG00000179455	0,777929307	MKRN3	>2
ENSG00000179912	0,549134379	R3HDM2	>2
ENSG00000181026	0,22255845	AEN	>2
ENSG00000181817	0,853848622	LSM10	>2
ENSG00000182154	0,179535828	MRPL41	>2
ENSG00000183431	0,460400974	SF3A3	>2
ENSG00000183520	0,542825504	UTP11	>2
ENSG00000183617	0,306375666	MRPL54	>2
ENSG00000183808	0,053259768	RBM12B	>2
ENSG00000184708	0,558548729	EIF4ENIF1	>2
ENSG00000185088	0,170020821	RPS27L	>2
ENSG00000188739	0,297174678	RBM34	>2
ENSG00000189007	0,264364046	ADAT2	>2
ENSG00000189306	0,636811832	RRP7A	>2
ENSG00000196361	0,027180458	ELAVL3	>2
ENSG00000196497	0,380113293	IPO4	>2
ENSG00000196678	0,416145181	ERI2	>2
ENSG00000197345	0,922006351	MRPL21	>2
ENSG00000198042	0,553560429	MAK16	>2
ENSG00000198056	0,212977542	PRIM1	>2
ENSG00000198231	0,728654891	DDX42	>2
ENSG00000198692	0,393730664	EIF1AY	>2
ENSG00000198700	0,477503951	IPO9	>2
ENSG00000213246	0,125148591	SUPT4H1	>2
ENSG00000213339	0,260414175	QTRT1	>2
ENSG00000213782	0,321061177	DDX47	>2
ENSG00000215301	0,294790522	DDX3X	>2
ENSG00000218823	0,090090731	PAPOLB	>2
ENSG00000223496	0,181471516	EXOSC6	>2
ENSG00000227057	0,701376333	WDR46	>2
ENSG00000233927	0,049212642	RPS28	>2
ENSG00000240344	0,906270194	PPIL3	>2
ENSG00000242372	0,952009914	EIF6	>2
ENSG00000242485	0,862224526	MRPL20	>2
ENSG00000243147	0,709274423	MRPL33	>2
ENSG00000247626	0,187850117	MARS2	>2
ENSG00000253729	0,500864634	PRKDC	>2
ENSG00000254093	0,30083148	PINX1	>2
ENSG00000259494	0,393104945	MRPL46	>2

RBPs from survival analysis

RBP	**Functions connected with circRNA biogenesis and or regulation/functions in GBM**
APOBEC3F	Prognostic factor in glioma [1].
BICC1	Can be used to predict prognosis and TMZ treatment response in GBM [2].
CALR	Can be used as immunotherapy response predictor in GBM [3].
CAVIN1	Transcriptional regulator [4] and putative glioma biomarker. Positive correlation was observed between CAVIN1 expression and glioma grade [5].
DDX25	Potential prognostic marker in GBM [6].
FASTK	High expression correlates with poor prognosis in astrocytoma [7].
IFIT1	High expression predicts improved clinical outcome in GBM [8]. IFIT1 expression can be regulated by circRNA [9].
IFIT5	Protective gene in GBM [10]
ISG20	Prognostic factor in glioma [1], risk factor in GBM [10], correlates with poor survival in glioma [11].
LSM5	Prognostic marker in glioma [12]. Involved in splicing [13].
MRPL41	Involved in apoptosis regulation in GBM [14].
NSUN5	According to [15] – tumor suppressor in glioma that change the translational program. According to [16,17] – risk factor, its expression negatively correlates with overall survival in low grade glioma.
NSUN7	Risk factor, its expression negatively correlates with overall survival in low grade glioma [16,17].
PARP12	Can play a role in TMZ resistance [18].
PTRH2	Prognostic biomarker in GBM [19] implicated in disease progression and overall survival [20].
RAN	Important for GBM cells survival [21]. Essential for the translocation of RNA through the nuclear pore complex [22].
RNH1	Prognostic biomarker in GBM [14].
RPP25	Prognostic risk factor for GBM with predictive value for the 1-year, 2-year, and 3-year survival [23].
REXO2	Its methylation status can be prognostic factor in lower grade gliomas [24].
SNRPF	Its downregulation inhibits human glioma cell migration and invasion [25]. Involved in spliceosome assembly [26].
SPATS2L	Prognostic factor in glioma [1] with expression negatively correlated with prognosis [27].
THOC7	Associated with longer survival in GBM [28]. Negatively correlates with SOX2, which promotes GBM malignancy [29]. Component of nuclear export complex which can be involved in circRNA export [30].
ZC3H12A	Its silencing suppress proliferation of GBM cell lines [31].

RBPs with binding motifs enriched in circRNA and/or flanking introns

RBP	**Functions connected with circRNA biogenesis and or regulation/functions in GBM**
CPEB1	Modulates differentiation of glioma stem cells via downregulation of HES1 and SIRT1 expression [32]. Regulates the expression of MTDH/AEG-1 and GBM cell migration [33]. Is potential tumor suppressor that restrains GBM proliferation through the regulation of p27Kip1 mRNA translation [34].
CPEB3	Loss of CPEB3 activity in high-grade gliomas is caused by expression of alternatively spliced variants lacking the B-region that overlaps with the kinase recognition site [35].
EIF4B	It is involved in translation of circRNA derived peptides [36].

EIF4G2	Upregulated in GBM [37]. LINC01579 modulates cell proliferation and cell apoptosis in GBM by competitively binding with miR-139-5p to regulate EIF4G2 expression [38]. EIF4G2 enhances circRNA translation [39].
ELAVL2	Downregulated in GBM [40], which can influence NF1 splicing [41].
ELAVL3	Downregulated in GBM [40], which can influence NF1 splicing [41].
ELAVL4	Downregulated in GBM [40], which can influence NF1 splicing [41]. Binds to *circHomer1a* and can influence its synaptic expression in the frontal cortex [42,43]. Binds to and regulates circRNAs derived from neuronal development and synaptic plasticity associated genes [43]. Regulates mRNA-circRNA-miRNA networks associated with neuronal development in mice [44].
FUBP3	It is associated with immune surveillance in GBM, indicating an impact on GBM development and progression [45].
FUS	Interaction between BACH2 and FUS promotes glioma progression via transcriptional inhibition of TSLNC8 [46]. FUS affects circular RNA expression in murine embryonic stem cell-derived motor neurons by regulating backsplicing [47]. FUS aggregates can affect circRNA function [48].
HNRNPA2B1	Oncogenic driver correlated with poor prognosis in GBM [49]. Regulates AKT and STAT3 pathways in glioma U251 cells [50].
HNRNPD	Interacts with ZHX2 regulating the vasculogenic mimicry formation of glioma cells via linc00707/miR-651-3p/SP2 axis [51]. SUMOylated FUS interact with HNRNPD, stabilizing its expression and glioma cells mitophagy [52].
HNRNPH2	Stabilizes m6A-modified transcripts, which may be important for GBM stem cells maintenance [53]. Regulates splicing of TRF2 [54], which depletion in GBM stem cells reduced cell proliferation [55].
HNRNPR	Prognostic factor associated with TMZ resistance [56].
IGF2BP2	By inhibiting PID1 expression through the DANCR/FOXO1 axis, induce drug resistance in GBM U-251 cells, and promotes progression [57]. Promotes the aerobic glycolysis of GBM by increasing HK2 stability [58]. Preserves GBM stem cells by preventing let-7 target gene silencing [59].
IGF2BP3	Can bind to and maintain the stability of circGNB1, thus promoting the malignant phenotype on GBM stem cells [60]. Proproliferative and proinvasive marker acting through IGF-2 resulting in the activation of oncogenic PI3K and MAPK pathways in GBM [61, 62]
ILF2	CircPOK interacts with interleukin enhancer binding factor 2/3 (ILF2/3) complex and supports the stabilization of IL-6 and VEGF mRNA by ILF2/3. It also potentiates the occupancy of ILF2/3 on the IL-6 promoter [63]. By interacting with circRNA ILF2 affect inflammatory response via STAT3/JNK signal pathway [64]. Expression of ILF2 correlates with malignant grade in gliomas and plays a role in tumor growth [65].
KHDRBS2	Together with BICC1 and GNL3l were considered as prognosis-associated hub RBPs effective in the prediction of GBM prognosis and treatment response [2]. Also considered as prognostic factor in another study [66].
MBNL1	Inhibits GBM tumor initiation and progression by reducing hypoxia-induced stemness [67]. Regulates vasculogenic mimicry and aerobic glycolysis in GBM cells [68,69]. Promotes the expression of circNTRK2 [69].
PABPC1	Induces stabilization of BDNF-AS and inhibits malignant progression of GBM cells through STAU1-mediated decay [70]. May contribute as potential predictor of proneural GBM subtype [71].
PCBP2	High expression of PCBP2 is associated with progression and poor prognosis in patients with GBM [72]. PCBP2 modulates glioma growth by regulating FHL3 [73], reduced

	oxidative stress-induced apoptosis in glioma through cGAS/STING pathway by METTL3-mediated m6A modification [74].
PCBP4	Molecular predictor of GBM resistance to anti-MDK treatment [75].
PPRC1	COL5A1 promotes the malignancy of glioblastoma through PPRC1-ESM1 axis activation and extracellular matrix remodeling, activates transcriptional activity of PPRC1 [76].
PTBP1	Upregulation of PTBP1 in GBM facilitates exon skipping events at PTBP1 target RNAs, resulting in the generation of oncogenic isoforms that promote cell proliferation and angiogenesis [77]. SON is overexpressed in GBM patients and SON knockdown causes failure in intron removal from the PTBP1 transcript, resulting in PTBP1 downregulation and inhibition of its downstream oncogenic splicing [78].
PUF60	Promotes glioblastoma progression through regulation of EGFR stability [79].
RBM24	According to TCGA data downregulated in GBM.
RBM4	Promotes backsplicing in reporter system [80].
RBM47	Suggested to be tumour suppresor [40].
RBM6	Promotes homologous recombination repair of double-strand breaks and modulates sensitivity to chemotherapeutic drugs in various cancer types [81].
RBMS2	One of the genes targeted by GBM-associated miRNA [82].
RBMX	Prognostic value in GBM [83]. In scRNA-seq from GBM RBMX expressed higher in malignant cells and monocytes/macrophages, which revealed the potential role of RBMX expression subgroup cells in the immune microenvironment [84].
RC3H1	One of the genes targeted by GBM-associated miRNA [82].
SF3B4	Its binding motifs appear in upstream or downstream of thousands of circRNAs [85].
SRSF1	Promotes backsplicing in reporter system [80]. Promotes gliomagenesis via oncogenic splice-switching of MYO1B [86]. CircSMARCA5 is a tumor suppressor in GBM and acts as a decoy for SRSF1 [87]. SRSF1 could bind to and promote circATP5B expression and regulate the proliferation of GSCs, while HOXB5 also transcriptionally regulated SRSF1 expression [88]. SRSF1 binding motifs appear in upstream or downstream of thousands of circRNAs [85].
SRSF11	It is regulated by miR-10b - a promising candidate for the development of targeted therapies against all GBM subtypes [89]. Overall survival rates are shorter for patients with high expression of SRSF11 [90]. It is a putative circRNA repressor [91].
SRSF2	Found to be overexpressed in GBM [92]
SRSF4	It regulates RPL22L1 isoform switch in GBM, which allows cells to survive acidosis, increases stemness and correlates with worse patient outcome [93]. Many of the splicing alterations induced by cisplatin are caused by SRSF4 and they contribute to apoptosis in a process requires class I PI3K [94].
TIA1	It is involved in splicing regulation, which cause differences in splicing profiles between GBM subtypes [95].
ZC3H10	It is a putative target gene repressed by the HOTAIR regulatory element in GBM that function in regulating glioma cell sensitivity to temozolomide [96].
ZFP36	It impairs GBM viability and invasiveness by targeting multiple pathways [97,98].
ZNF326	It promotes malignant phenotype of glioma by up-regulating HDAC7 expression and activating Wnt pathway [99,100].

REFERENCES

1. Tu Z, Shu L, Li J, Wu L, Tao C, Ye M, Zhu X, Huang K. A Novel Signature Constructed by RNA-Binding Protein Coding Genes to Improve Overall Survival Prediction of Glioma Patients. Front Cell Dev Biol. 2021 Jan 28;8:588368. doi: 10.3389/fcell.2020.588368.
2. Sun R, Pan Y, Mu L, Ma Y, Shen H, Long Y. Development of a 3 RNA Binding Protein Signature for Predicting Prognosis and Treatment Response for Glioblastoma Multiforme. Front Genet. 2021 Oct 18;12:768930. doi: 10.3389/fgene.2021.768930.
3. Chen R, Zhang H, Wu W, Li S, Wang Z, Dai Z, Liu Z, Zhang J, Luo P, Xia Z, Cheng Q. Antigen Presentation Machinery Signature-Derived CALR Mediates Migration, Polarization of Macrophages in Glioma and Predicts Immunotherapy Response. Front Immunol. 2022 Mar 28;13:833792. doi: 10.3389/fimmu.2022.833792.
4. Liu L, Pilch PF. PTRF/Cavin-1 promotes efficient ribosomal RNA transcription in response to metabolic challenges. Elife. 2016 Aug 16;5:e17508. doi: 10.7554/eLife.17508.
5. Huang K, Fang C, Yi K, Liu X, Qi H, Tan Y, Zhou J, Li Y, Liu M, Zhang Y, Yang J, Zhang J, Li M, Kang C. The role of PTRF/Cavin1 as a biomarker in both glioma and serum exosomes. Theranostics. 2018 Feb 7;8(6):1540-1557. doi: 10.7150/thno.22952.
6. Wong KK, Rostomily R, Wong STC. Prognostic Gene Discovery in Glioblastoma Patients using Deep Learning. Cancers (Basel). 2019 Jan 8;11(1):53. doi: 10.3390/cancers11010053.
7. Zhi F, Zhou G, Shao N, Xia X, Shi Y, Wang Q, Zhang Y, Wang R, Xue L, Wang S, Wu S, Peng Y, Yang Y. miR-106a-5p inhibits the proliferation and migration of astrocytoma cells and promotes apoptosis by targeting FASTK. PLoS One. 2013 Aug 27;8(8):e72390. doi: 10.1371/journal.pone.0072390.
8. Zhang JF, Chen Y, Lin GS, Zhang JD, Tang WL, Huang JH, Chen JS, Wang XF, Lin ZX. High IFIT1 expression predicts improved clinical outcome, and IFIT1 along with MGMT more accurately predicts prognosis in newly diagnosed glioblastoma. Hum Pathol. 2016 Jun;52:136-44. doi: 10.1016/j.humpath.2016.01.013.
9. Zhang M, Zhu Y, Zhu J, Xie Y, Wu R, Zhong J, Qiu Z, Jiang L. circ_0086296 induced atherosclerotic lesions via the IFIT1/STAT1 feedback loop by sponging miR-576-3p. Cell Mol Biol Lett. 2022 Sep 23;27(1):80. doi: 10.1186/s11658-022-00372-2.
10. Zhu C, Zou C, Guan G, Guo Q, Yan Z, Liu T, Shen S, Xu X, Chen C, Lin Z, Cheng W, Wu A. Development and validation of an interferon signature predicting prognosis and treatment response for glioblastoma. Oncoimmunology. 2019 Jun 12;8(9):e1621677. doi: 10.1080/2162402X.2019.1621677.
11. Gao M, Lin Y, Liu X, Li Y, Zhang C, Wang Z, Wang Z, Wang Y, Guo Z. ISG20 promotes local tumor immunity and contributes to poor survival in human glioma. Oncoimmunology. 2018 Oct 31;8(2):e1534038. doi: 10.1080/2162402X.2018.1534038.
12. Ullah A, Alam S, Farzana M, Moin AT, Prapty CNBS, Zohora US, Rahman MS. Prognostic and therapeutic value of LSM5 gene in human brain cancer Glioma: An omics database exploration approach. Informatics in Medicine Unlocked. 2022 34(101114). doi: 10.1016/j.imu.2022.101114.
13. Salgado-Garrido J, Bragado-Nilsson E, Kandels-Lewis S, Séraphin B. Sm and Sm-like proteins assemble in two related complexes of deep evolutionary origin. EMBO J. 1999 Jun 15;18(12):3451-62. doi: 10.1093/emboj/18.12.3451.
14. Kun S, Duan Q, Liu G, Lu JM. Prognostic value of DNA repair genes based on stratification of glioblastomas. Oncotarget. 2017 Apr 27;8(35):58222-58230. doi: 10.18632/oncotarget.17452.
15. Janin M, Ortiz-Barahona V, de Moura MC, Martínez-Cardús A, Llinàs-Arias P, Soler M, Nachmani D, Pelletier J, Schumann U, Calleja-Cervantes ME, Moran S, Guil S, Bueno-Costa A, Piñeyro D, Perez-Salvia M, Rosselló-Tortella M, Piqué L, Bech-Serra JJ, De La Torre C, Vidal A, Martínez-Iniesta M, Martín-Tejera JF, Villanueva A, Arias A, Cuartas I, Aransay AM, La Madrid AM, Carcaboso AM, Santa-Maria V, Mora J, Fernandez AF, Fraga MF, Aldecoa I, Pedrosa L, Graus F, Vidal N, Martínez-Soler F, Tortosa A, Carrato C, Balañá C, Boudreau MW, Hergenrother PJ, Kötter P, Entian KD, Hench

J, Frank S, Mansouri S, Zadeh G, Dans PD, Orozco M, Thomas G, Blanco S, Seoane J, Preiss T, Pandolfi PP, Esteller M. Epigenetic loss of RNA-methyltransferase NSUN5 in glioma targets ribosomes to drive a stress adaptive translational program. Acta Neuropathol. 2019 Dec;138(6):1053-1074. doi: 10.1007/s00401-019-02062-4.
16. Li X, Meng Y. Expression and prognostic characteristics of m5 C regulators in low-grade glioma. J Cell Mol Med. 2021 Feb;25(3):1383-1393. doi: 10.1111/jcmm.16221.
17. Wang P, Wu M, Tu Z, Tao C, Hu Q, Li K, Zhu X, Huang K. Identification of RNA: 5-Methylcytosine Methyltransferases-Related Signature for Predicting Prognosis in Glioma. Front Oncol. 2020 Aug 19;10:1119. doi: 10.3389/fonc.2020.01119.
18. Bisht P, Kumar VU, Pandey R, Velayutham R, Kumar N. Role of PARP Inhibitors in Glioblastoma and Perceiving Challenges as Well as Strategies for Successful Clinical Development. Front Pharmacol. 2022 Jul 6;13:939570. doi: 10.3389/fphar.2022.939570.
19. Johnson RM, Phillips HS, Bais C, Brennan CW, Cloughesy TF, Daemen A, Herrlinger U, Jenkins RB, Lai A, Mancao C, Weller M, Wick W, Bourgon R, Garcia J. Development of a gene expression-based prognostic signature for IDH wild-type glioblastoma. Neuro Oncol. 2020 Dec 18;22(12):1742-1756. doi: 10.1093/neuonc/noaa157.
20. Sun Z, Zhao Y, Wei Y, Ding X, Tan C, Wang C. Identification and validation of an anoikis-associated gene signature to predict clinical character, stemness, IDH mutation, and immune filtration in glioblastoma. Front Immunol. 2022 Aug 25;13:939523. doi: 10.3389/fimmu.2022.939523.
21. Sheng KL, Pridham KJ, Sheng Z, Lamouille S, Varghese RT. Functional Blockade of Small GTPase RAN Inhibits Glioblastoma Cell Viability. Front Oncol. 2019 Jan 8;8:662. doi: 10.3389/fonc.2018.00662.
22. Matsuura Y. Mechanistic Insights from Structural Analyses of Ran-GTPase-Driven Nuclear Export of Proteins and RNAs. J Mol Biol. 2016 May 22;428(10 Pt A):2025-39. doi: 10.1016/j.jmb.2015.09.025.
23. Xiao D, Wu J, Zhao H, Jiang X, Nie C. RPP25 as a Prognostic-Related Biomarker That Correlates With Tumor Metabolism in Glioblastoma. Front Oncol. 2022 Jan 12;11:714904. doi: 10.3389/fonc.2021.714904.
24. Wang H, Wang X, Xu L, Zhang J, Cao H. RUNX1 and REXO2 are associated with the heterogeneity and prognosis of IDH wild type lower grade glioma. Sci Rep. 2021 Jun 4;11(1):11836. doi: 10.1038/s41598-021-91382-1.
25. Ge J, Hu W, Zhou H, Yu J, Sun C, Chen W. Ubiquitin carboxyl-terminal hydrolase isozyme L5 inhibits human glioma cell migration and invasion via downregulating SNRPF. Oncotarget. 2017 Dec 7;8(69):113635-113649. doi: 10.18632/oncotarget.23071.
26. Woppmann A, Rinke J, Lührmann R. Direct cross-linking of snRNP proteins F and 70K to snRNAs by ultra-violet radiation in situ. Nucleic Acids Res. 1988 Dec 9;16(23):10985-1004. doi: 10.1093/nar/16.23.10985.
27. Wang H, Wang X, Xu L, Zhang J, Cao H. Analysis of the EGFR Amplification and CDKN2A Deletion Regulated Transcriptomic Signatures Reveals the Prognostic Significance of SPATS2L in Patients With Glioma. Front Oncol. 2021 Apr 20;11:551160. doi: 10.3389/fonc.2021.551160.
28. Ping Y, Deng Y, Wang L, Zhang H, Zhang Y, Xu C, Zhao H, Fan H, Yu F, Xiao Y, Li X. Identifying core gene modules in glioblastoma based on multilayer factor-mediated dysfunctional regulatory networks through integrating multi-dimensional genomic data. Nucleic Acids Res. 2015 Feb 27;43(4):1997-2007. doi: 10.1093/nar/gkv074.
29. Berezovsky AD, Poisson LM, Cherba D, Webb CP, Transou AD, Lemke NW, Hong X, Hasselbach LA, Irtenkauf SM, Mikkelsen T, deCarvalho AC. Sox2 promotes malignancy in glioblastoma by regulating plasticity and astrocytic differentiation. Neoplasia. 2014 Mar;16(3):193-206, 206.e19-25. doi: 10.1016/j.neo.2014.03.006.

30. Wang S, Latallo MJ, Zhang Z, Huang B, Bobrovnikov DG, Dong D, Livingston NM, Tjoeng W, Hayes LR, Rothstein JD, Ostrow LW, Wu B, Sun S. Nuclear export and translation of circular repeat-containing intronic RNA in C9ORF72-ALS/FTD. Nat Commun. 2021 Aug 13;12(1):4908. doi: 10.1038/s41467-021-25082-9.
31. Wang Z, Tang W, Yuan J, Qiang B, Han W, Peng X. Integrated Analysis of RNA-Binding Proteins in Glioma. Cancers (Basel). 2020 Apr 7;12(4):892. doi: 10.3390/cancers12040892.
32. Yin J, Park G, Lee JE, Park JY, Kim TH, Kim YJ, Lee SH, Yoo H, Kim JH, Park JB. CPEB1 modulates differentiation of glioma stem cells via downregulation of HES1 and SIRT1 expression. Oncotarget. 2014 Aug 30;5(16):6756-69. doi: 10.18632/oncotarget.2250.
33. Kochanek DM, Wells DG. CPEB1 regulates the expression of MTDH/AEG-1 and glioblastoma cell migration. Mol Cancer Res. 2013 Feb;11(2):149-60. doi: 10.1158/1541-7786.MCR-12-0498.
34. Galardi S, Petretich M, Pinna G, D'Amico S, Loreni F, Michienzi A, Groisman I, Ciafrè SA. CPEB1 restrains proliferation of Glioblastoma cells through the regulation of p27(Kip1) mRNA translation. Sci Rep. 2016 May 4;6:25219. doi: 10.1038/srep25219.
35. Skubal M, Gielen GH, Waha A, Gessi M, Kaczmarczyk L, Seifert G, Freihoff D, Freihoff J, Pietsch T, Simon M, Theis M, Steinhäuser C, Waha A. Altered splicing leads to reduced activation of CPEB3 in high-grade gliomas. Oncotarget. 2016 Jul 5;7(27):41898-41912. doi: 10.18632/oncotarget.9735.
36. Wang Y, Wu C, Du Y, Li Z, Li M, Hou P, Shen Z, Chu S, Zheng J, Bai J. Expanding uncapped translation and emerging function of circular RNA in carcinomas and noncarcinomas. Mol Cancer. 2022 Jan 7;21(1):13. doi: 10.1186/s12943-021-01484-7.
37. Digregorio M, Lombard A, Lumapat PN, Scholtes F, Rogister B, Coppieters N. Relevance of Translation Initiation in Diffuse Glioma Biology and its Therapeutic Potential. Cells. 2019 Nov 29;8(12):1542. doi: 10.3390/cells8121542.
38. Chai Y, Xie M. LINC01579 promotes cell proliferation by acting as a ceRNA of miR-139-5p to upregulate EIF4G2 expression in glioblastoma. J Cell Physiol. 2019 Dec;234(12):23658-23666. doi: 10.1002/jcp.28933.
39. Yang Y, Fan X, Mao M, Song X, Wu P, Zhang Y, Jin Y, Yang Y, Chen LL, Wang Y, Wong CC, Xiao X, Wang Z. Extensive translation of circular RNAs driven by N6-methyladenosine. Cell Res. 2017 May;27(5):626-641. doi: 10.1038/cr.2017.31.
40. Bhargava S, Patil V, Mahalingam K, Somasundaram K. Elucidation of the genetic and epigenetic landscape alterations in RNA binding proteins in glioblastoma. Oncotarget. 2017 Mar 7;8(10):16650-16668. doi: 10.18632/oncotarget.14287.
41. Siddaway R, Milos S, Vadivel AKA, Dobson THW, Swaminathan J, Ryall S, Pajovic S, Patel PG, Nazarian J, Becher O, Brudno M, Ramani A, Gopalakrishnan V, Hawkins C. Splicing is an alternate oncogenic pathway activation mechanism in glioma. Nat Commun. 2022 Jan 31;13(1):588. doi: 10.1038/s41467-022-28253-4.
42. Zimmerman AJ, Hafez AK, Amoah SK, Rodriguez BA, Dell'Orco M, Lozano E, Hartley BJ, Alural B, Lalonde J, Chander P, Webster MJ, Perlis RH, Brennand KJ, Haggarty SJ, Weick J, Perrone-Bizzozero N, Brigman JL, Mellios N. A psychiatric disease-related circular RNA controls synaptic gene expression and cognition. Mol Psychiatry. 2020 Nov;25(11):2712-2727. doi: 10.1038/s41380-020-0653-4.
43. Dell'Orco M, Oliver RJ, Perrone-Bizzozero N. HuD Binds to and Regulates Circular RNAs Derived From Neuronal Development- and Synaptic Plasticity-Associated Genes. Front Genet. 2020 Aug 5;11:790. doi: 10.3389/fgene.2020.00790.
44. Dell'Orco M, Elyaderani A, Vannan A, Sekar S, Powell G, Liang WS, Neisewander JL, Perrone-Bizzozero NI. HuD Regulates mRNA-circRNA-miRNA Networks in the Mouse Striatum Linked to Neuronal Development and Drug Addiction. Biology (Basel). 2021 Sep 20;10(9):939. doi: 10.3390/biology10090939.

45. Li J, Zhang Z, Guo K, Wu S, Guo C, Zhang X, Wang Z. Identification of a key glioblastoma candidate gene, FUBP3, based on weighted gene co-expression network analysis. BMC Neurol. 2022 Apr 12;22(1):139. doi: 10.1186/s12883-022-02661-x.
46. Yang Y, Liu X, Zheng J, Xue Y, Liu L, Ma J, Wang P, Yang C, Wang D, Shao L, Ruan X, Liu Y. Interaction of BACH2 with FUS promotes malignant progression of glioma cells via the TSLNC8-miR-10b-5p-WWC3 pathway. Mol Oncol. 2020 Nov;14(11):2936-2959. Doi: 10.1002/1878-0261.12795.
47. Errichelli L, Dini Modigliani S, Laneve P, Colantoni A, Legnini I, Capauto D, Rosa A, De Santis R, Scarfò R, Peruzzi G, Lu L, Caffarelli E, Shneider NA, Morlando M, Bozzoni I. FUS affects circular RNA expression in murine embryonic stem cell-derived motor neurons. Nat Commun. 2017 Mar 30;8:14741. doi: 10.1038/ncomms14741.
48. D'Ambra E, Santini T, Vitiello E, D'Uva S, Silenzi V, Morlando M, Bozzoni I. Circ-Hdgfrp3 shuttles along neurites and is trapped in aggregates formed by ALS-associated mutant FUS. iScience. 2021 Nov 25;24(12):103504. doi: 10.1016/j.isci.2021.103504.
49. Golan-Gerstl R, Cohen M, Shilo A, Suh SS, Bakàcs A, Coppola L, Karni R. Splicing factor hnRNP A2/B1 regulates tumor suppressor gene splicing and is an oncogenic driver in glioblastoma. Cancer Res. 2011 Jul 1;71(13):4464-72. doi: 10.1158/0008-5472.CAN-10-4410.
50. Yin D, Kong C, Chen M. Effect of hnRNPA2/B1 on the proliferation and apoptosis of glioma U251 cells via the regulation of AKT and STAT3 pathways. Biosci Rep. 2020 Jul 31;40(7):BSR20190318. doi: 10.1042/BSR20190318.
51. Yu S, Ruan X, Liu X, Zhang F, Wang D, Liu Y, Yang C, Shao L, Liu Q, Zhu L, Lin Y, Xue Y. HNRNPD interacts with ZHX2 regulating the vasculogenic mimicry formation of glioma cells via linc00707/miR-651-3p/SP2 axis. Cell Death Dis. 2021 Feb 4;12(2):153. doi: 10.1038/s41419-021-03432-1.
52. Liu C, Peng Z, Li P, Fu H, Feng J, Zhang Y, Liu T, Liu Y, Liu Q, Liu Q, Li D, Wu M. lncRNA RMST Suppressed GBM Cell Mitophagy through Enhancing FUS SUMOylation. Mol Ther Nucleic Acids. 2020 Mar 6;19:1198-1208. doi: 10.1016/j.omtn.2020.01.008.
53. Visvanathan A, Patil V, Abdulla S, Hoheisel JD, Somasundaram K. N^6-Methyladenosine Landscape of Glioma Stem-Like Cells: METTL3 Is Essential for the Expression of Actively Transcribed Genes and Sustenance of the Oncogenic Signaling. Genes (Basel). 2019 Feb 13;10(2):141. doi: 10.3390/genes10020141.
54. Grammatikakis I, Zhang P, Panda AC, Kim J, Maudsley S, Abdelmohsen K, Yang X, Martindale JL, Motiño O, Hutchison ER, Mattson MP, Gorospe M. Alternative Splicing of Neuronal Differentiation Factor TRF2 Regulated by HNRNPH1/H2. Cell Rep. 2016 May 3;15(5):926-934. doi: 10.1016/j.celrep.2016.03.080.
55. Bai Y, Lathia JD, Zhang P, Flavahan W, Rich JN, Mattson MP. Molecular targeting of TRF2 suppresses the growth and tumorigenesis of glioblastoma stem cells. Glia. 2014 Oct;62(10):1687-98. doi: 10.1002/glia.22708.
56. Yi GZ, Xiang W, Feng WY, Chen ZY, Li YM, Deng SZ, Guo ML, Zhao L, Sun XG, He MY, Qi ST, Liu YW. Identification of Key Candidate Proteins and Pathways Associated with Temozolomide Resistance in Glioblastoma Based on Subcellular Proteomics and Bioinformatical Analysis. Biomed Res Int. 2018 Mar 1;2018:5238760. doi: 10.1155/2018/5238760.
57. Han J, Yu X, Wang S, Wang Y, Liu Q, Xu H, Wang X. IGF2BP2 Induces U251 Glioblastoma Cell Chemoresistance by Inhibiting FOXO1-Mediated PID1 Expression Through Stabilizing lncRNA DANCR. Front Cell Dev Biol. 2022 Jan 24;9:659228. doi: 10.3389/fcell.2021.659228.
58. Liu H, Qin S, Liu C, Jiang L, Li C, Yang J, Zhang S, Yan Z, Liu X, Yang J, Sun X. m6A reader IGF2BP2-stabilized CASC9 accelerates glioblastoma aerobic glycolysis by enhancing HK2 mRNA stability. Cell Death Discov. 2021 Oct 13;7(1):292. doi: 10.1038/s41420-021-00674-y.

59. Degrauwe N, Schlumpf TB, Janiszewska M, Martin P, Cauderay A, Provero P, Riggi N, Suvà ML, Paro R, Stamenkovic I. The RNA Binding Protein IMP2 Preserves Glioblastoma Stem Cells by Preventing let-7 Target Gene Silencing. Cell Rep. 2016 May 24;15(8):1634-47. doi: 10.1016/j.celrep.2016.04.086.
60. Zang G, Xu J, Li H, Zhao J, Hu J, Zhao X, Zong S, Guo Z, Li X, Jiang Y, Jing Z. IGF2BP3 binding circGNB1 promotes the malignant phenotype of GSCs via miR-515-5p/miR-582-3p mediated XPR1 expression change. Research Square. 2022 June 13. doi: 10.21203/rs.3.rs-1725216/v1
61. Suvasini R, Shruti B, Thota B, Shinde SV, Friedmann-Morvinski D, Nawaz Z, Prasanna KV, Thennarasu K, Hegde AS, Arivazhagan A, Chandramouli BA, Santosh V, Somasundaram K. Insulin growth factor-2 binding protein 3 (IGF2BP3) is a glioblastoma-specific marker that activates phosphatidylinositol 3-kinase/mitogen-activated protein kinase (PI3K/MAPK) pathways by modulating IGF-2. J Biol Chem. 2011 Jul 22;286(29):25882-90. doi: 10.1074/jbc.M110.178012.
62. Sun C, Zheng X, Sun Y, Yu J, Sheng M, Yan S, Zhu Q, Lan Q. Identification of IGF2BP3 as an Adverse Prognostic Biomarker of Gliomas. Front Genet. 2021 Oct 13;12:743738. doi: 10.3389/fgene.2021.743738.
63. Guarnerio J, Zhang Y, Cheloni G, Panella R, Mae Katon J, Simpson M, Matsumoto A, Papa A, Loretelli C, Petri A, Kauppinen S, Garbutt C, Nielsen GP, Deshpande V, Castillo-Martin M, Cordon-Cardo C, Dimitrios S, Clohessy JG, Batish M, Pandolfi PP. Intragenic antagonistic roles of protein and circRNA in tumorigenesis. Cell Res. 2019 Aug;29(8):628-640. doi: 10.1038/s41422-019-0192-1.
64. Jia Y, Li X, Nan A, Zhang N, Chen L, Zhou H, Zhang H, Qiu M, Zhu J, Ling Y, Jiang Y. Circular RNA 406961 interacts with ILF2 to regulate PM2.5-induced inflammatory responses in human bronchial epithelial cells via activation of STAT3/JNK pathways. Environ Int. 2020 Aug;141:105755. doi: 10.1016/j.envint.2020.105755.
65. Huang Q, He X, Qiu X, Liu X, Sun G, Guo J, Ding Z, Yang L, Ban N, Tao T, Wang D. Expression of NF45 correlates with malignant grade in gliomas and plays a pivotal role in tumor growth. Tumour Biol. 2014 Oct;35(10):10149-57. doi:10.1007/s13277-014-2310-5.
66. Hou Z, Yang J, Wang H, Liu D, Zhang H. A Potential Prognostic Gene Signature for Predicting Survival for Glioblastoma Patients. Biomed Res Int. 2019 Mar 26;2019:9506461. doi: 10.1155/2019/9506461.
67. Voss DM, Sloan A, Spina R, Ames HM, Bar EE. The Alternative Splicing Factor, MBNL1, Inhibits Glioblastoma Tumor Initiation and Progression by Reducing Hypoxia-Induced Stemness. Cancer Res. 2020 Nov 1;80(21):4681-4692. doi:10.1158/0008-5472.CAN-20-1233.
68. Liu M, Ruan X, Liu X, Dong W, Wang D, Yang C, Liu L, Wang P, Zhang M, Xue Y. The mechanism of BUD13 m6A methylation mediated MBNL1-phosphorylation by CDK12 regulating the vasculogenic mimicry in glioblastoma cells. Cell Death Dis. 2022 Dec 3;13(12):1017. doi: 10.1038/s41419-022-05426-z.
69. Zhao Y, Song J, Dong W, Liu X, Yang C, Wang D, Xue Y, Ruan X, Liu L, Wang P, Zhang M, Liu Y. The MBNL1/circNTRK2/PAX5 pathway regulates aerobic glycolysis in glioblastoma cells by encoding a novel protein NTRK2-243aa. Cell Death Dis. 2022 Sep 5;13(9):767. doi: 10.1038/s41419-022-05219-4.
70. Su R, Ma J, Zheng J, Liu X, Liu Y, Ruan X, Shen S, Yang C, Wang D, Cai H, Li Z, Xue Y. PABPC1-induced stabilization of BDNF-AS inhibits malignant progression of glioblastoma cells through STAU1-mediated decay. Cell Death Dis. 2020 Feb 3;11(2):81. doi: 10.1038/s41419-020-2267-9.
71. Wang Q, Wang Z, Bao Z, Zhang C, Wang Z, Jiang T. PABPC1 relevant bioinformatic profiling and prognostic value in gliomas. Future Oncol. 2020 Jan;16(1):4279-4288. doi: 10.2217/fon-2019-0268.

72. Luo K, Zhuang K. High expression of PCBP2 is associated with progression and poor prognosis in patients with glioblastoma. Biomed Pharmacother. 2017 Oct;94:659-665. doi: 10.1016/j.biopha.2017.07.103.
73. Han W, Xin Z, Zhao Z, Bao W, Lin X, Yin B, Zhao J, Yuan J, Qiang B, Peng X. RNA-binding protein PCBP2 modulates glioma growth by regulating FHL3. J Clin Invest. 2013 May;123(5):2103-18. doi: 10.1172/JCI61820.
74. Chen X, Yu M, Xu W, Kun P, Wan W, Yuhong X, Ye J, Liu Y, Luo J. PCBP2 Reduced Oxidative Stress-Induced Apoptosis in Glioma through cGAS/STING Pathway by METTL3-Mediated m6A Modification. Oxid Med Cell Longev. 2022 Oct 11;2022:9049571. doi: 10.1155/2022/9049571.
75. Han S, Shin H, Lee JK, Liu Z, Rabadan R, Lee J, Shin J, Lee C, Yang H, Kim D, Kim SH, Kim J, Oh JW, Kong DS, Lee JI, Seol HJ, Choi JW, Kang HJ, Nam DH. Secretome analysis of patient-derived GBM tumor spheres identifies midkine as a potent therapeutic target. Exp Mol Med. 2019 Dec 6;51(12):1-11. doi:10.1038/s12276-019-0351-y. Erratum in: Exp Mol Med. 2020 Nov;52(11):1869.
76. Tsai HF, Chang YC, Li CH, Chan MH, Chen CL, Tsai WC, Hsiao M. Type V collagen alpha 1 chain promotes the malignancy of glioblastoma through PPRC1-ESM1 axis activation and extracellular matrix remodeling. Cell Death Discov. 2021 Oct 26;7(1):313. doi: 10.1038/s41420-021-00661-3.
77. Ferrarese R, Harsh GR 4th, Yadav AK, Bug E, Maticzka D, Reichardt W, Dombrowski SM, Miller TE, Masilamani AP, Dai F, Kim H, Hadler M, Scholtens DM, Yu IL, Beck J, Srinivasasainagendra V, Costa F, Baxan N, Pfeifer D, von Elverfeldt D, Backofen R, Weyerbrock A, Duarte CW, He X, Prinz M, Chandler JP, Vogel H, Chakravarti A, Rich JN, Carro MS, Bredel M. Lineage-specific splicing of a brain-enriched alternative exon promotes glioblastoma progression. J Clin Invest. 2014 Jul;124(7):2861-76. doi: 10.1172/JCI68836.
78. Kim JH, Jeong K, Li J, Murphy JM, Vukadin L, Stone JK, Richard A, Tran J, Gillespie GY, Flemington EK, Sobol RW, Lim SS, Ahn EE. SON drives oncogenic RNA splicing in glioblastoma by regulating PTBP1/PTBP2 switching and RBFOX2 activity. Nat Commun. 2021 Sep 21;12(1):5551. doi: 10.1038/s41467-021-25892-x.
79. Wang F, Peng L, Sun Y, Zhang B, Lu S. PUF60 promotes glioblastoma progression through regulation of EGFR stability. Biochem Biophys Res Commun. 2022 Dec 25;636(Pt 1):190-196. doi: 10.1016/j.bbrc.2022.10.082.
80. Wang Y, Wang Z. Efficient backsplicing produces translatable circular mRNAs. RNA. 2015 Feb;21(2):172-9. doi: 10.1261/rna.048272.114.
81. Machour FE, Abu-Zhayia ER, Awwad SW, Bidany-Mizrahi T, Meinke S, Bishara LA, Heyd F, Aqeilan RI, Ayoub N. RBM6 splicing factor promotes homologous recombination repair of double-strand breaks and modulates sensitivity to chemotherapeutic drugs. Nucleic Acids Res. 2021 Nov 18;49(20):11708-11727. doi:10.1093/nar/gkab976.
82. Avsar O. In Silico Analysis of miRNA-mediated ceRNAs as Potential Molecular Biomarkers in Glioblastoma. Dicle Medical Journal 2021 Sep 1;48(3):doi.org/10.5798/dicletip.987908
83. Gong S, Wu C, Köhler F, Meixensberger J, Schopow N, Kallendrusch S. Procollagen-Lysine, 2-Oxoglutarate 5-Dioxygenase Family: Novel Prognostic Biomarkers and Tumor Microenvironment Regulators for Lower-Grade Glioma. Front Cell Neurosci. 2022 Feb 18;16:838548. doi: 10.3389/fncel.2022.838548.
84. Sheng Y, Tu Z, Sun C, Long X, Wu L, Huang K, Zhu X. Prognostic and Immunological Role of RBMX in cancers. doi.org/10.21203/rs.3.rs-2179142/v1
85. Liu C, Liu YC, Huang HD, Wang W. Biogenesis mechanisms of circular RNA can be categorized through feature extraction of a machine learning model. Bioinformatics. 2019 Dec 1;35(23):4867-4870. doi: 10.1093/bioinformatics/btz705.
86. Zhou X, Wang R, Li X, Yu L, Hua D, Sun C, Shi C, Luo W, Rao C, Jiang Z, Feng Y, Wang Q, Yu S. Splicing factor SRSF1 promotes gliomagenesis via oncogenic splice-switching of MYO1B. J Clin Invest. 2019 Feb 1;129(2):676-693. doi:10.1172/JCI120279.

87. Barbagallo D, Caponnetto A, Brex D, Mirabella F, Barbagallo C, Lauretta G, Morrone A, Certo F, Broggi G, Caltabiano R, Barbagallo GM, Spina-Purrello V, Ragusa M, Di Pietro C, Hansen TB, Purrello M. CircSMARCA5 Regulates VEGFA mRNA Splicing and Angiogenesis in Glioblastoma Multiforme Through the Binding of SRSF1. Cancers (Basel). 2019 Feb 7;11(2):194. doi: 10.3390/cancers11020194.
88. Zhao J, Jiang Y, Zhang H, Zhou J, Chen L, Li H, Xu J, Zhang G, Jing Z. The SRSF1/circATP5B/miR-185-5p/HOXB5 feedback loop regulates the proliferation of glioma stem cells via the IL6-mediated JAK2/STAT3 signaling pathway. J Exp Clin Cancer Res. 2021 Apr 15;40(1):134. doi: 10.1186/s13046-021-01931-9.
89. Teplyuk NM, Uhlmann EJ, Gabriely G, Volfovsky N, Wang Y, Teng J, Karmali P, Marcusson E, Peter M, Mohan A, Kraytsberg Y, Cialic R, Chiocca EA, Godlewski J, Tannous B, Krichevsky AM. Therapeutic potential of targeting microRNA-10b in established intracranial glioblastoma: first steps toward the clinic. EMBO Mol Med. 2016 Mar 1;8(3):268-87. doi: 10.15252/emmm.201505495.
90. Li F, Yi Y, Miao Y, Long W, Long T, Chen S, Cheng W, Zou C, Zheng Y, Wu X, Ding J, Zhu K, Chen D, Xu Q, Wang J, Liu Q, Zhi F, Ren J, Cao Q, Zhao W. N6-Methyladenosine Modulates Nonsense-Mediated mRNA Decay in Human Glioblastoma. Cancer Res. 2019 Nov 15;79(22):5785-5798. doi:10.1158/0008-5472.CAN-18-2868.
91. Czubak K, Sedehizadeh S, Kozlowski P, Wojciechowska M. An Overview of Circular RNAs and Their Implications in Myotonic Dystrophy. Int J Mol Sci. 2019 Sep 6;20(18):4385. doi: 10.3390/ijms20184385.
92. Fuentes-Fayos AC, Vázquez-Borrego MC, Jiménez-Vacas JM, Bejarano L, Pedraza-Arévalo S, L-López F, Blanco-Acevedo C, Sánchez-Sánchez R, Reyes O, Ventura S, Solivera J, Breunig JJ, Blasco MA, Gahete MD, Castaño JP, Luque RM. Splicing machinery dysregulation drives glioblastoma development/aggressiveness: oncogenic role of SRSF3. Brain. 2020 Dec 5;143(11):3273-3293. doi:10.1093/brain/awaa273.
93. Larionova TD, Bastola S, Aksinina TE, Anufrieva KS, Wang J, Shender VO, Andreev DE, Kovalenko TF, Arapidi GP, Shnaider PV, Kazakova AN, Latyshev YA, Tatarskiy VV, Shtil AA, Moreau P, Giraud F, Li C, Wang Y, Rubtsova MP, Dontsova OA, Condro M, Ellingson BM, Shakhparonov MI, Kornblum HI, Nakano I, Pavlyukov MS. Alternative RNA splicing modulates ribosomal composition and determines the spatial phenotype of glioblastoma cells. Nat Cell Biol. 2022 Oct;24(10):1541-1557. doi: 10.1038/s41556-022-00994-w.
94. Gabriel M, Delforge Y, Deward A, Habraken Y, Hennuy B, Piette J, Klinck R, Chabot B, Colige A, Lambert C. Role of the splicing factor SRSF4 in cisplatin-induced modifications of pre-mRNA splicing and apoptosis. BMC Cancer. 2015 Apr 7;15:227. doi: 10.1186/s12885-015-1259-0.
95. Guardia GDA, Correa BR, Araujo PR, Qiao M, Burns S, Penalva LOF, Galante PAF. Proneural and mesenchymal glioma stem cells display major differences in splicing and lncRNA profiles. NPJ Genom Med. 2020 Jan 16;5:2. doi:10.1038/s41525-019-0108-5.
96. Zhang L, He A, Chen B, Bi J, Chen J, Guo D, Qian Y, Wang W, Shi T, Zhao Z, Shi J, An W, Attenello F, Lu W. A HOTAIR regulatory element modulates glioma cell sensitivity to temozolomide through long-range regulation of multiple target genes. Genome Res. 2020 Feb;30(2):155-163. doi:10.1101/gr.251058.119.
97. Selmi T, Martello A, Vignudelli T, Ferrari E, Grande A, Gemelli C, Salomoni P, Ferrari S, Zanocco-Marani T. ZFP36 expression impairs glioblastoma cell lines viability and invasiveness by targeting multiple signal transduction pathways. Cell Cycle. 2012 May 15;11(10):1977-87. doi: 10.4161/cc.20309.
98. Ryu J, Yoon NA, Lee YK, Jeong JY, Kang S, Seong H, Choi J, Park N, Kim N, Cho WJ, Paek SH, Cho GJ, Choi WS, Park JY, Park JW, Kang SS. Tristetraprolin inhibits the growth of human glioma cells through downregulation of urokinase plasminogen activator/urokinase plasminogen activator receptor mRNAs. Mol Cells. 2015;38(2):156-62. doi: 10.14348/molcells.2015.2259.

99. Yu X, Wang M, Wu J, Han Q, Zhang X. ZNF326 promotes malignant phenotype of glioma by up-regulating HDAC7 expression and activating Wnt pathway. J Exp Clin Cancer Res. 2019 Jan 28;38(1):40. doi: 10.1186/s13046-019-1031-4.
100. Wang M, Han Q, Su Z, Yu X. Transcription Factor ZNF326 Upregulates the Expression of ERCC1 and HDAC7 and its Clinicopathologic Significance in Glioma. Lab Med. 2020 Jul 8;51(4):377-384. doi: 10.1093/labmed/lmz075.

ID	ENSG00000001497	ENSG00000003756	ENSG00000004534	ENSG00000005007	ENSG00000005075	ENSG00000005100	ENSG00000005189	ENSG00000005436	ENSG00000007376	ENSG00000007392	ENSG00000007520	ENSG00000011260	ENSG00000011304	ENSG00000012048
TCGA-06-0878-01A	1005.758215	1638.97316	1510.809586	2477.46705	1372.870825	943.8486919	146.6278175	263.9300715	469.209016	1469.536571	1057.89255	1064.409342	6028.032497	608.2339097
TCGA-26-5135-01A	1879.708895	4297.190134	2468.365078	5206.115189	3155.795773	1292.050435	374.1458789	391.1071587	1444.701954	2378.570067	2751.718224	1273.093711	8791.929292	620.5832978
TCGA-06-5859-01A	2467.334383	3705.532951	2249.828322	6951.13121	5113.65813	2195.451807	915.3380081	1607.505735	1761.572528	2369.909793	2783.397879	3565.060287	10731.43187	4257.228013
TCGA-06-2563-01A	2720.553449	8220.893175	6337.912713	6165.410088	3164.280081	2128.225158	205.7561432	1035.01575	1398.726105	5313.288687	2118.872606	2508.562271	14264.72009	632.8560161
TCGA-41-2571-01A	2333.750902	5001.84734	2505.210151	5540.038875	4102.63883	1337.382149	540.0966372	445.7940498	1759.362414	2975.770537	2583.319365	1357.385728	7023.161387	390.5460692
TCGA-28-5207-01A	1862.496917	5303.091107	3284.495137	4839.070635	4259.579631	2046.394431	473.6430162	659.6788735	1322.565262	2516.829932	2604.502003	2403.497743	9328.522158	1192.126327
TCGA-14-0871-01A	482.4185292	1302.956948	870.0610287	863.2303239	429.4805667	288.5972794	25.61514314	236.513155	150.2755064	753.0852084	225.4132596	286.0357651	1694.868638	109.2912774
TCGA-16-1045-01B	1406.533553	3947.577285	3582.720538	3807.247767	2163.233492	1439.996745	151.1240962	567.7948186	749.1437341	1986.202407	1612.709998	1741.16548	6774.677342	1186.324155
TCGA-32-2632-01A	2007.417519	2575.30537	2220.611297	5849.622198	3929.934861	1464.056386	466.9509737	570.7178567	1253.692614	1148.039061	2193.254573	1799.883753	12384.10582	587.6978921
TCGA-06-0156-01A	2012.272282	6353.661719	5946.28974	3589.790931	3874.783672	1959.744208	460.4588616	1003.621499	1013.680067	2911.396443	1405.964194	2499.55399	9161.678441	1413.228715
TCGA-06-0141-01A	2043.387052	5412.543083	4201.769911	3183.393572	4348.831858	1615.469958	176.9166278	713.195156	1355.623661	5012.269212	2382.845831	2246.841174	6570.241266	567.238938
TCGA-06-2569-01A	2272.665486	9612.171523	5704.338045	4540.098435	1433.715295	1868.888003	352.3241966	2605.803712	557.2652516	4849.690241	1444.18037	2738.36133	11356.35071	919.1824338
TCGA-02-2485-01A	2215.391561	4886.779731	4397.041301	7911.974996	2725.375084	2221.175873	473.3495459	1068.169647	1162.646746	3686.534956	2106.453682	2114.166098	15587.75724	1033.463774
TCGA-06-0138-01A	1399.694206	3901.008525	1894.55508	1932.176082	4093.93674	1006.120646	513.1890542	713.8343987	954.9946685	2887.17075	1626.38486	1594.551704	4441.207529	487.143745
TCGA-06-2564-01A	2628.576952	8375.09941	6249.028423	6508.492287	3631.399313	2698.643143	361.2787981	909.7657006	1055.372004	5661.129287	2230.07549	2393.198341	12582.35523	1503.138757
TCGA-28-5213-01A	597.5150187	1326.936154	968.6240172	982.4052532	2196.138397	390.7964785	123.0467501	241.1716303	395.7183485	945.9834151	972.5615132	1322.014284	2264.060203	261.8434843
TCGA-76-4928-01B	2296.881057	5568.435173	3433.015108	5618.645603	4379.137137	2024.169504	239.2379326	777.7694107	1415.737231	2638.508887	3470.426801	3151.442891	12464.98545	881.143826
TCGA-76-4931-01A	3878.415578	10000.97978	8198.320712	7101.613162	4310.190205	2569.059025	445.8073014	1069.721636	1849.074836	9858.494149	3903.242619	2633.825219	12775.13175	1352.534016
TCGA-06-5856-01A	3047.403145	5875.308022	3979.738024	4720.278298	3854.006006	2183.261904	498.6659692	644.642973	2624.389492	3176.33174	3367.060818	3378.781599	12025.52164	1549.274186
TCGA-19-2620-01A	1272.568745	2697.883925	2598.598742	3295.504356	1474.003107	702.6336054	76.37321797	493.5619212	507.8818995	863.0173631	1170.419565	922.206607	4633.945001	426.7353554
TCGA-26-5132-01A	2994.468143	5473.44352	6400.70185	6169.149205	4079.936652	1396.650117	827.722125	1261.490428	1808.415681	4181.568356	2748.247005	1980.246603	15361.05579	1702.592979
TCGA-06-0125-02A	1509.557498	2784.528043	1664.995193	6907.918201	1877.649218	1687.881725	71.52041207	712.3433043	701.8536438	971.7239987	1680.252881	1533.397635	10584.06738	629.3796263
TCGA-06-0681-11A	2162.797057	5009.513583	3509.017851	6480.530027	1169.345069	1467.085873	219.1293701	511.9569589	1381.595939	2908.623029	2441.867645	1645.926883	2339.672781	230.9210851
TCGA-06-2558-01A	2073.834227	5439.901441	4250.226627	4082.89487	3383.34017	1974.514732	491.1996737	859.329539	1961.560015	3868.062485	2712.933582	2250.882021	7855.956099	918.7053237
TCGA-06-5414-01A	2171.356502	5075.094531	3829.014411	8621.471564	3935.261308	2411.701426	189.8002833	1075.87878	1345.106355	2403.449239	2759.324771	3261.676607	16246.49164	903.6143922
TCGA-26-5133-01A	2102.932778	3565.344496	3076.601154	6620.94496	3688.484909	1927.290639	246.2808246	470.606382	2289.075262	2321.530874	3451.749852	2332.985796	11747.97717	804.7082759
TCGA-32-4213-01A	394.0409172	567.1243107	476.8999885	1171.995532	797.2883978	404.168137	102.1928547	255.0218085	471.3760504	443.75636	1035.738392	880.1474692	2533.646271	175.8453626
TCGA-06-0210-01A	2294.959548	5370.144387	5086.703168	4044.370943	3611.589727	2186.256285	159.4991806	814.766515	1016.934266	4117.517064	2421.949341	2164.921999	9269.239006	529.2934593
TCGA-06-5417-01A	556.5431529	1368.956771	1183.774255	951.7983079	502.7804869	671.0377192	101.5517023	315.6067611	158.301183	473.9079441	341.4924891	730.7740147	1621.840422	206.0902194
TCGA-19-2624-01A	5883.284581	13165.0634	17118.23793	5541.755368	4960.00683	3315.026675	1091.431278	707.0803588	1816.266978	11830.2795	2636.145976	2217.328806	13454.37102	1417.294013
TCGA-14-1823-01A	1307.605065	1892.807332	1173.204544	1540.939302	3334.812917	568.4022016	157.7339443	574.0022233	384.5348228	1083.604197	1080.804186	1751.873452	3644.680784	341.6013231
TCGA-02-0055-01A	1808.371328	2595.632416	1857.749834	2546.25391	2877.928404	930.738257	169.5639267	683.8457264	931.6699269	1484.150194	1922.966729	1965.823546	7193.423506	253.4142201
TCGA-32-1982-01A	792.6243387	2173.128622	1366.314077	1472.740619	1103.795275	425.7061665	69.93744165	240.2199083	482.4669888	1575.112816	635.5184915	564.5674637	3131.981082	172.3096388
TCGA-14-0736-02A	544.9421607	966.6878264	421.7456656	669.0379003	1942.368098	303.045393	90.82369345	330.9219722	463.1109122	682.5265676	1078.194143	1050.317564	1438.791183	319.2317938
TCGA-06-2570-01A	3310.402602	8633.379513	4737.914729	5166.564348	2317.479812	2294.710895	529.6248182	939.4653317	1173.094224	5015.10155	1980.895815	1922.488592	11888.34475	599.9114763
TCGA-06-0745-01A	1866.927802	2955.222249	1873.897666	4686.735555	8655.575138	1411.895266	650.1887226	971.798152	2282.132545	3976.805142	4299.410267	2763.053147	11764.13439	782.6161347
TCGA-14-1402-02A	804.2703765	2142.915683	1010.979598	1242.963309	3334.427352	529.8616285	273.5060876	863.8459599	696.8537942	1421.690059	927.0321848	2140.207702	4249.724952	315.9311243
TCGA-14-0781-01B	1796.29322	5368.5481	4188.301112	4659.993276	3737.957085	1501.485617	141.3043336	896.6217429	1004.379004	2832.18614	2827.103251	1735.298543	9300.671571	473.7253199
TCGA-32-5222-01A	1294.607252	3908.73516	1743.938291	3359.750504	3886.491049	1476.119197	180.6221802	1034.796037	1005.433811	2035.781026	1703.898892	3393.561553	8991.959374	699.3548454
TCGA-28-5204-01A	1709.425203	5239.440685	2725.641781	5885.45659	5931.600583	2172.96259	195.0632441	805.4224271	978.4624017	1019.362759	1745.081925	3071.72173	10959.19839	1104.309656
TCGA-06-5410-01A	1779.51899	3572.063738	2204.359109	4946.782237	3043.017552	946.8724355	136.2694722	559.1056286	1089.153796	1599.162336	2654.248764	3006.946221	7766.357934	555.097703
TCGA-14-1829-01A	483.4638705	1772.700859	796.8200829	624.270688	3366.341024	411.0256812	336.9596673	928.6738658	369.5161569	1364.930826	648.6880552	2285.46557	2016.060618	402.0726465
TCGA-02-0047-01A	1524.720829	3350.646726	2519.736193	3806.608881	1700.250679	1702.327955	184.8775937	584.7532879	758.2058617	1546.53223	1448.900243	1401.122887	6508.106753	547.3623139
TCGA-15-0742-01A	2516.980892	5543.585544	6867.984562	5342.227073	5046.416947	1863.084825	401.6790125	735.8925577	2008.395062	4839.868824	3761.459279	2004.243341	10906.57122	861.4821197
TCGA-19-2619-01A	2729.277027	5124.669435	3506.299032	5847.575584	2655.761148	2881.414056	364.516236	973.0643498	1366.170094	3863.667891	2808.91923	1826.665395	13432.98488	1083.338169
TCGA-06-0168-01A	411.4212146	765.2037083	399.495962	1311.777786	818.867345	383.5956252	74.53282873	164.9659943	231.5486546	277.2621229	511.7920906	373.6579147	2541.072574	329.9319885
TCGA-19-1390-01A	4772.906064	10224.6082	6906.265134	8027.248354	3196.15977	3679.074686	2116.874022	1036.618566	1721.232886	6009.284616	3214.584234	2719.063105	20733.34103	2324.391677
TCGA-41-4097-01A	1380.054999	4000.063489	2653.103335	4645.412949	1416.459327	1222.302909	107.0066626	520.6922137	901.2829208	1740.788799	1624.956845	1277.460982	6059.665954	281.3061748
TCGA-06-0649-01B	1808.05508	5189.475902	3052.013814	4651.690019	2817.324476	1112.406414	172.5966433	751.4268493	1202.91441	2032.220232	2155.353204	1471.281142	6600.769186	947.1767008
TCGA-27-2526-01A	695.9538503	1329.740129	725.8265794	1482.333259	6136.827397	673.3474608	199.4206509	469.8899546	899.4113565	528.0206707	2457.637495	1769.757355	4544.691675	277.7356433
TCGA-27-2523-01A	2421.609978	4792.174215	3621.184904	6167.346491	4654.350713	2477.760294	486.9763742	1299.624579	2268.472754	2766.679191	2757.490957	2993.322283	20005.84702	1320.042876
TCGA-06-5412-01A	1697.449934	3064.69991	2788.018601	4550.094826	4203.738296	1246.07568	220.1333049	861.3472895	1254.153967	1622.725785	2714.304237	2319.477988	8257.018507	524.0788315
TCGA-19-4065-01A	2565.985775	7689.69328	4415.065701	3698.159853	4104.131032	1258.200754	572.2850722	1275.761849	1190.022388	3061.828437	2233.357989	3343.838951	9387.954397	828.4704474
TCGA-06-0644-01A	1746.384159	2731.523941	1789.216323	5000.655197	4408.792562	1136.999274	222.9219467	629.8275088	1730.808826	901.4223696	2745.152357	2086.121099	12571.24026	849.8290807
TCGA-12-0821-01A	2210.344073	5006.666303	4166.477035	6275.56753	5102.534053	2101.550335	509.4993892	1259.206736	1539.269825	3622.508343	2783.396241	2437.626042	13948.21901	1555.427311
TCGA-28-1753-01A	1278.900648	3103.534608	3157.383057	3356.208097	1258.189706	804.6200836	200.8961341	380.0457795	639.9680974	2057.632054	1125.639679	891.6060386	7127.670574	497.0625999
TCGA-12-0619-01A	4099.354052	6976.704157	5494.273139	6896.572751	3396.095525	1558.344982	471.2991927	1273.667617	1428.658627	2506.21517	2056.00319	2701.271883	15371.52333	1227.27575
TCGA-14-0789-01A	1147.051736	2828.89036	2067.338714	5822.18517	1507.04079	1245.316465	39.68383271	506.4412936	650.0589739	1312.401039	1435.23195	1322.794424	9019.568263	280.6213884
TCGA-32-2634-01A	3361.468657	5578.607558	6014.23309	8168.520546	3051.546015	2737.28879	973.1137504	1808.604509	2337.423563	3240.100349	2952.934265	2870.577199	19680.08777	2099.021531
TCGA-06-0158-01A	3821.488543	7987.97258	7208.813527	9736.303589	2631.519472	1899.067501	263.2580997	1026.494284	1511.611024	3379.894312	2599.673734	2150.64883	14466.45719	961.7412834
TCGA-06-0152-02A	2561.610273	7214.800982	4215.61282	9492.718414	2804.47647	2188.936282	406.1727773	876.202615	1571.302419	3940.294675	2666.293979	2451.692383	17213.14169	1603.754368
TCGA-12-0618-01A	3796.32286	8691.931444	10247.71757	6613.114585	4385.883919	3022.52397	1474.926191	915.0478934	1584.445346	6069.612984	2637.671612	2468.786934	11537.38239	1048.108549
TCGA-26-5139-01A	2097.63595	5693.733727	3581.355355	7658.687885	3343.370553	1978.643549	126.3636115	741.3331873	1085.674028	3258.075116	2270.332886	2034.454145	13040.7247	634.9771476
TCGA-06-0747-01A	4280.718149	10177.8453	7892.542077	10287.44972	4566.509095	1934.978843	286.8152864	769.2795716	1458.660599	9745.573695	2883.517968	1875.567105	18863.22678	1022.291628
TCGA-32-2616-01A	2389.704278	4785.522937	3327.242843	8194.290873	7621.577097	1783.361401	706.2111149	1005.81583	2942.03678	1946.411586	3966.195756	2927.769889	17302.68185	2170.605591
TCGA-06-0129-01A	4761.904072	12215.41071	10153.53363	7447.188323	2266.169297	3404.519209	1331.058546	1877.59287	1741.749079	7499.840955	2357.784878	2457.824879	17363.7851	2380.952036
TCGA-76-4929-01A	1940.953526	3296.94689	3391.654726	5155.448889	3671.321394	1997.778227	576.0464827	709.7516625	1731.482078	2552.654723	3290.261631	2710.872519	6716.456862	1161.006644
TCGA-06-0157-01A	2667.59988	6508.46966	4279.36459	7818.567178	3747.137473	2272.200383	371.6970754	963.1802476	1649.473109	4078.971384	2576.02234	2428.420893	15665.14631	992.269584
TCGA-06-AABW-11/	2195.955112	5477.871	3196.463237	6590.53573	968.4633812	915.9456059	94.35396913	599.9488226	842.9547996	2381.102523	2301.880794	868.7686214	2522.633476	531.4086752
TCGA-28-5220-01A	1632.906946	2235.308947	1046.813629	3797.884695	3497.193341	1519.765454	535.1286808	1245.57571	1197.668952	1886.710835	3033.415151	2991.624149	8307.235712	962.2123328
TCGA-12-5295-01A	709.3368021	975.3381029	516.4037599	2697.778625	5388.168324	628.8796185	313.6188176	547.6014433	1277.463037	822.6336524	2334.900307	2307.807582	5922.633901	287.3470842
TCGA-06-0645-01A	1587.996969	4673.52916	2916.408056	5655.825738	2869.210623	1193.701746	148.4752584	518.1884846	1271.380855	2184.847842	1978.359072	2115.034972	10132.69893	508.3556861
TCGA-26-5134-01A	676.4576036	1571.265446	1155.971854	1257.654564	797.4065106	528.7500889	126.3006285	232.2647152	378.9018856	1532.733051	557.6493853	501.9914812	3141.460548	338.2288018
TCGA-32-2615-01A	3272.822612	7533.320913	4107.21967	6201.308016	3217.771836	2373.659935	538.6340644	1072.950421	1626.696463	5019.33547	3971.21187	2366.103946	12036.69029	1020.058499
TCGA-32-1980-01A	1652.201431	3577.288984	2169.196594	4910.957887	2036.226629	1346.568974	198.4626344	496.1565859	875.2202175	1743.494243	1944.933817	1805.01766	5715.72387	348.3019233
TCGA-26-1442-01A	4245.62942	7271.410238	5476.405006	5784.347243	3011.873749	1350.972394	226.4865484	898.9926592	1017.202744	3868.15184	2874.789785	1699.642475	4320.131574	474.827062
TCGA-06-0187-01A	1552.536294	4557.216266	2548.349906	6346.030128	3126.36799	1300.033657	224.1087661	574.9758841	1218.908312	2020.021095	2501.702832	1836.475002	10601.05448	392.4438574
TCGA-14-0790-01B	1782.729513	6021.710904	5182.965082	5256.631591	3510.735333	1537.525276	185.2186507	684.046153	1114.46904	3358.140422	1629.082223	1565.939501	9461.936864	525.1369698
TCGA-14-2554-01A	2522.66015	2518.083481	2707.557592	4234.33449	4614.198046	907.0958667	169.3367662	974.8305732	987.6452474	1544.168241	2247.144655	2228.837977	8094.297426	2060.416545
TCGA-28-2510-01A	2598.55303	5675.896206	4088.930167	5051.703411	1987.86191	1548.538196	400.8958711	516.1793987	1159.066819	2744.994267	2198.695749	1363.669116	5203.337601	544.2213379
TCGA-27-1834-01A	2121.9831	4186.152332	4349.958292	5131.516145	2545.951469	1812.571841	353.3069743	1032.084616	859.7136374	1866.103201	2227.975192	2008.496617	7452.635903	745.1565276
TCGA-28-2514-01A	2329.439942	5467.529772	4134.679705	7664.903778	2019.592937	1676.221502	247.8776039	930.5569066	1137.798838	3856.325347	2135.404605	2171.97671	12159.20919	1139.830621
TCGA-14-1825-01A	644.7625349	1641.031125	1609.897731	1162.98289	1059.53968	616.6420505	387.6609634	259.1101776	499.1385979	796.41229	708.0336248	651.792656	2825.104378	309.3253283
TCGA-12-1597-01B	1057.741673	2420.887632	1295.27834	2871.131348	2359.641244	638.1211501	346.7869804	475.9009874	864.0706623	1209.202335	1433.496539	1157.06014	4890.606843	325.2679792
TCGA-19-4065-02A	2744.198705	4175.216056	3985.192239	3495.80129	2157.141883	1261.16366	410.8336165	607.2269474	812.1129629	1883.252806	1873.698535	1884.314391	7203.919695	920.3946913
TCGA-41-3915-01A	1543.192623	4256.307288	3003.549857	4019.05037	2370.523857	874.3735539	293.5031695	688.2495927	917.3252372	1442.972029	1654.662468	1601.484193	7976.741193	843.6937801
TCGA-06-2561-01A	2250.222753	4604.319311	3790.264818	5793.222753	3469.610899	1340.197897	217.9091778	904.3795411	882.9273422	3703.32696	2069.572658	2052.636711	8049.090822	942.7676864
TCGA-06-0678-11A	1563.974962	3967.968106	2818.769959	6553.663938	921.8319576	1446.010914	126.525955	494.6879442	776.2795432	2068.176136	1838.9073	1203.423557	2326.935984	248.2952951
TCGA-19-1787-01B	5070.433203	4153.351573	2887.301169	6169.269403	5059.00863	2257.911058	2180.016242	1140.380102	1763.538627	1711.60875	3001.546898	2497.82709	11669.68199	1610.864789
TCGA-27-1830-01A	2315.80193	5791.10193	5793.231403	5102.217401	2718.272334	2045.358854	301.320435	987.0107536	1015.75864	2958.902788	2127.343566	1954.85625	9992.552236	1031.729687
TCGA-06-0125-01A	3564.182498	10468.55465	7186.437216	8655.871781	3279.006418	3339.152646	218.8078286	1164.55541	1897.717187	7624.052873	2446.292264	2762.578462	18287.56426	1204.998563
TCGA-28-1747-01C	2448.388301	5406.419661	5210.968921	5143.717053	3398.32093	1602.485905	285.8204369	824.8861873	1321.919521	3998.333685	2703.735236	1949.253347	9071.646439	699.8397462
TCGA-14-1034-02B	2256.472005	3175.698389	2600.661974	4339.289252	2044.34284	1611.765718	330.6719344	747.6513233	735.1731371	1771.902441	1031.530059	2129.610445	11944.74374	1630.482997
TCGA-41-2572-01A	1925.688225	5813.416952	4636.389149	4568.597064	3563.50571	1404.966409	120.846761	541.3541897	1413.808855	4706.146223	2357.003087	1714.452016	9675.600836	569.8465155
TCGA-06-2567-01A	3357.567927	5474.272057	5314.439296	8757.323359	4109.213884	1924.472836	1279.742037	950.356956	1637.205847	4037.937112	2924.507542	2314.335178	13219.68125	2508.726374
TCGA-06-0211-01A	2279.642075	6759.565317	4875.735769	7448.021191	3045.474834	2091.159919	214.2744509	682.5038065	1421.55226	2936.353586	2384.795278	2048.503431	15513.07344	957.2909496
TCGA-27-2528-01A	1772.693691	3571.87478	2427.030543	6513.938078	2418.20141	1996.365058	258.9878995	892.7234414	1316.521822	2476.081281	2000.289118	2118.01089	11488.66398	829.938496
TCGA-06-0184-01A	2323.432677	4866.278895	2727.976393	4591.032443	3760.395466	787.5378887	177.2939774	750.3159487	1485.939026	2219.603055	2516.39905	1625.031539	10881.54031	333.0384107
TCGA-06-0744-01A	3098.683471	10653.0274	9756.588691	4727.624415	5287.661703	1410.043121	257.7498178	899.2815334	1772.029997	5733.985836	2362.390793	2863.676284	11690.65993	535.3994377
TCGA-06-0171-02A	1567.106888	4424.252235	3161.724116	6973.871279	1770.486904	1256.633047	114.9539222	649.4405347	818.4326254	1131.854003	1794.067196	2303.008492	7715.667956	553.1543435
TCGA-14-0787-01A	1429.942488	3532.734732	4019.593498	2324.887366	3200.139081	1324.912283	146.6046622	534.9976104	1153.144134	2690.304957	2575.42817	1901.484349	8487.7535	815.078159
TCGA-06-2565-01A	4671.392658	10905.3382	7119.426068	6904.918157	1759.77817	2736.754959	172.826279	1350.078226	1245.365834	7195.672956	1929.554573	2547.662677	14692.26696	906.829652
TCGA-06-0178-01A	852.8696496	3015.78759	742.1919088	812.3601497	3198.08034	400.7546954	826.1044443	334.2033741	826.1044443	2421.166003	1098.096801	2349.550994	3041.106028	209.7813387
TCGA-06-2557-01A	3503.307337	8871.260983	6687.450631	7439.306868	2795.362932	2438.713179	350.2236317	1046.386814	1493.002271	4812.09412	2302.693603	2174.171169	12792.26623	1408.391669
TCGA-06-0211-02A	1501.24973	4825.232941	3223.767597	4305.302432	3428.167759	1200.602891	152.8040043	644.9519661	1195.641722	2540.118513	2119.411384	2043.009382	9647.48918	578.4723019
TCGA-06-0675-11A	1489.315007	3701.216483	2897.063148	5808.52045	760.0112665	1786.794164	288.8426657	492.2800249	1138.097679	1808.865199	1897.149336	1259.008563	1679.317824	150.658799
TCGA-06-0210-02A	2083.19127	4912.292768	3504.953858	6198.060674	2923.88567	1951.317639	221.5064902	610.9458078	1240.436345	2022.405768	2570.505549	1910.107129	10442.74318	916.933843
TCGA-76-4927-01A	1315.009963	2465.266959	1928.815225	4745.689127	2703.355089	1017.650949	263.2029109	496.2680839	989.5223941	1098.01825	1803.241317	1369.257892	8975.018344	627.8695394
TCGA-06-5858-01A	3956.265496	5541.079167	4287.702372	5639.671149	3614.340111	2341.03515	480.3737002	1185.201487	1193.592294	1955.058029	2546.609922	2327.400089	11923.33673	1756.825214
TCGA-12-3653-01A	1648.454018	2387.033966	1349.193111	5076.351677	3075.233291	1217.195877	139.0505223	550.1564144	1028.772343	1431.817335	1908.418038	1320.979962	9541.082578	922.9730322
TCGA-28-2513-01A	1407.378099	2605.187602	1672.703479	6105.367697	2792.64575	999.7767918	98.05503151	591.2141606	1139.168748	1270.870114	2225.464686	1520.814312	8291.418105	495.0817767
TCGA-19-1389-02A	1553.410419	2290.60519	1949.515072	4222.115504	2552.67443	1446.382142	158.0417554	988.2611036	831.2196124	1028.271675	2036.538064	1646.434996	10052.65596	565.1493153
TCGA-12-3652-01A	706.4105789	1918.42873	1630.424417	2247.233654	2704.040495	561.6084104	163.202444	422.4063258	1042.415611	1575.22359	1840.027555	2173.632551	5801.686884	328.0049121
TCGA-27-2524-01A	1353.003387	2682.052502	1191.931555	3994.581429	4069.748284	809.489206	76.81887363	446.8710821	954.8668593	1091.984419	1426.518223	1754.443953	9354.556386	390.7024433
TCGA-14-0817-01A	1394.945155	3227.858258	1473.400044	2633.842676	3821.011699	651.7790713	390.5501578	817.3102641	1552.717073	1741.52609	1812.221704	2894.209448	7908.425161	687.9890198
TCGA-06-1804-01A	4760.138013	7856.074421	12797.62344	8242.794899	3803.113461	1871.68366	483.400597	1191.663944	2817.845278	7902.78504	2678.799713	2246.454909	13200.63832	1972.708953
TCGA-26-5136-01B	1348.740283	3076.598363	3583.237601	1402.735848	1846.188786	732.9610739	249.2986725	511.2346048	643.3514128	2618.210482	1000.641215	921.3711305	3644.126217	605.4396331
TCGA-06-0646-01A	2743.013846	6530.107665	3912.860462	5555.416184	2859.022732	2104.422875	645.0961416	777.3679555	1816.026953	2945.758347	2486.059584	2366.798113	12587.50622	1418.127316
TCGA-28-5218-01A	2002.872081	3089.294382	1721.628889	4562.097518	1917.88582	1243.252617	115.6514063	733.3350533	746.4772586	701.7937607	1261.651705	1909.12435	10596.12203	585.2662074
TCGA-02-2483-01A	1870.138862	3734.903762	3261.099424	4627.877155	2707.581312	1908.652258	587.5532057	1381.108298	1970.452824	1611.293014	2690.563765	3828.052441	13107.98958	921.6345254
TCGA-06-2562-01A	2583.50036	5547.365297	4478.449183	5082.220664	3060.101757	2455.1846	266.9426093	1354.189546	1574.159421	4513.965153	2354.365073	1935.047498	11563.31226	914.2497949
TCGA-27-1837-01A	989.124677	2616.798196	1750.792414	2591.757065	1327.179946	892.0902942	132.5093185	272.3223003	642.722364	1508.728147	1111.200191	788.7956285	4761.988424	355.7927372
TCGA-06-2559-01A	2316.485587	6795.024389	7610.259226	3270.394391	2207.22731	2400.530416	456.9937553	892.9763034	939.2009591	5418.790321	1296.39148	2381.620329	10071.72214	1544.323725
TCGA-06-0221-02A	2877.329801	6330.125562	6590.112862	6014.646902	1781.889241	2786.899436	419.2680567	1046.114906	1192.036632	3471.292881	1857.932957	1614.387542	7450.228949	1321.516473
TCGA-06-0686-01A	1094.341945	3028.435916	2212.366674	2249.864415	2585.370511	691.7346292	396.6866205	356.2285323	961.1262894	1446.623347	1307.486995	1043.029248	5168.767458	343.400358
TCGA-06-5416-01A	1213.077935	2207.619728	1425.543628	2723.607841	1997.177518	845.815808	866.0506359	596.9274243	1289.970281	1403.285318	1870.709843	2218.748884	7091.295452	460.3423357
TCGA-06-0238-01A	1942.016648	4540.38087	2673.65115	2408.216469	4037.502802	1281.808205	829.1214217	721.9823323	1229.686486	2562.651193	1869.625371	2393.738214	6717.910472	428.5563577
TCGA-14-1034-01A	1084.872083	1766.677089	1526.040028	7394.576351	2334.179491	1315.4826	109.2893318	442.1705995	954.5270084	620.6430863	1577.175404	1329.519762	11018.16943	1144.028694
TCGA-19-2629-01A	3112.879025	4039.927673	2913.438289	13102.95569	3737.258817	1541.406291	341.7552311	1439.180387	2127.701922	2295.071786	4517.98411	2609.767219	17771.27202	1190.631128
TCGA-19-2625-01A	2592.292692	3139.262406	2464.902334	6174.38825	3934.94663	1812.785022	443.8441856	808.8276731	1685.394664	2864.260997	3207.001724	1336.58773	11712.83574	1181.899437
TCGA-06-0130-01A	2173.055092	4300.573454	3756.250688	4243.387794	3027.663015	1089.704527	375.9427669	658.6940873	1265.497483	2355.20201	2116.928425	2000.439117	9678.143511	925.5605021
TCGA-12-5299-01A	1396.326764	3699.041076	1353.928178	4965.34551	6149.679344	1476.412982	214.8195022	600.1755389	1448.147258	1296.454539	3216.639387	2735.179889	10287.78133	610.5396377
TCGA-06-0882-01A	1693.425721	5111.202443	3346.32866	6100.811428	3815.539816	1619.84488	118.3691782	887.2356421	829.6506364	2045.334088	1469.484032	2158.371322	8332.76359	275.1283602
TCGA-06-5413-01A	2091.763863	5043.319267	3255.772738	3801.637882	5087.549447	1509.220033	490.8471158	1107.912061	1801.570733	2792.974028	2964.500823	3754.171347	9820.178671	1158.61495
TCGA-76-4925-01A	3226.198381	9572.030301	5401.37488	10175.89774	5240.482863	1775.035962	454.4677124	1552.503496	1128.333631	2061.298383	2256.667261	3379.777125	18262.28876	1708.171746
TCGA-06-5418-01A	1662.781752	6218.558323	4508.736005	4450.446608	5478.180716	1905.14293	146.2348035	827.3003919	1117.724757	4073.099457	2354.07355	2371.458107	8805.789462	818.0968029
TCGA-06-0190-01A	2054.947512	5182.521435	3071.383952	5413.301673	2461.321409	1086.673904	171.5800901	697.3576761	1226.145439	2502.460495	1855.272436	1368.627151	13359.16561	633.1405664
TCGA-27-1835-01A	3056.478711	5820.917161	4844.309409	4685.205037	3786.055992	998.5892774	162.2445891	685.6142314	1017.430585	4966.777905	1916.57963	1842.261141	7747.964184	1141.992559
TCGA-28-5216-01A	1570.94139	3569.792078	2687.774954	3503.810599	1855.24394	1197.369781	304.6791825	514.26741	755.8760611	1303.134211	1500.108332	1742.687299	7389.92565	454.1078262
TCGA-06-0680-11A	2262.05845	4903.590758	3733.628501	6617.629819	837.799426	1989.034402	301.6077934	682.0672974	1199.531649	2513.398278	2166.450751	1352.306838	2078.728223	190.229752
TCGA-06-5411-01A	2182.697869	5403.635134	3361.521336	3686.426744	4064.44169	1385.013438	605.0321859	734.1612583	1844.254735	3081.394558	2793.978236	2810.640051	5073.522909	508.1853817
TCGA-27-2519-01A	1807.008506	2796.433718	2300.1201	3261.794444	4380.367932	1819.816599	435.4751745	770.6202842	1725.890581	2118.672111	3715.414418	1836.894057	8699.89742	727.9266397
TCGA-16-0846-01A	1742.861766	4476.862033	3043.414027	5859.586473	2893.272268	1344.174529	520.4237986	1021.572642	1179.830171	2413.427323	2471.25219	1634.313332	7639.983679	414.918779
TCGA-28-5209-01A	2071.558922	5087.796244	3404.407062	9069.506772	3263.794554	2901.370766	180.2216653	877.3428322	1613.082927	2069.578464	2610.24346	2528.054459	19319.36643	1768.548869
TCGA-76-4926-01B	2354.067156	5428.239903	5653.205626	6396.991819	4622.023031	2063.441581	414.4105419	1309.967869	1125.905005	2911.637703	2596.255135	2455.247912	10332.27738	2937.471088
TCGA-06-0219-01A	1030.382326	2673.448588	1266.511609	1164.546692	4974.814669	563.4903347	585.8510622	837.1856401	917.6842593	2350.559682	1305.86649	2302.26051	3839.784138	468.6808498
TCGA-02-2486-01A	1387.353651	1819.320707	1408.757424	3120.086367	3236.83422	951.4950006	121.6123467	790.966703	497.1512733	918.4164423	1698.681259	1994.442486	5861.715111	287.0051382
TCGA-06-0190-02A	1843.75417	3534.012646	2601.30057	4088.402979	1672.200158	813.5271829	154.3986107	526.3999419	885.760451	1372.432095	1443.762448	1051.896968	11845.35307	432.4966932
TCGA-06-0750-01A	2107.947402	5786.772021	3305.210579	3787.087779	4484.429896	1421.219321	230.324565	628.3508871	1684.447395	4865.473761	3678.82462	2149.342139	7312.008888	597.5701849
TCGA-15-1444-01A	2336.829374	5970.025112	5336.058783	7168.453155	2978.167404	2371.581681	367.5319746	1040.463011	1296.366363	2632.750534	2749.644658	2606.423029	8472.191219	1193.162542
TCGA-27-1832-01A	2975.971981	5762.054537	5014.948601	5832.614543	4066.53912	2312.915463	715.9765227	841.531826	1655.047179	3847.595574	2784.007262	1946.626024	13417.8151	1796.16719
TCGA-28-2499-01A	1865.038287	2916.975079	2389.414448	3843.656026	4864.809602	1773.75013	159.2235305	1119.872165	1424.519853	2081.582289	3356.432023	2597.466528	7385.848835	923.4964769
TCGA-19-0957-02A	1970.779644	3724.655752	2899.244556	5294.998098	1836.319081	1455.511062	452.4548884	900.983921	904.9097768	1736.209756	2086.592392	1381.901264	6560.10515	798.9116685
TCGA-06-0174-01A	1911.100497	4147.333817	2767.409621	5152.032051	2772.135389	1655.909036	632.307731	786.3677612	1310.927986	2156.840422	2063.27022	2213.549635	11210.46636	860.0897388
TCGA-12-0616-01A	1268.551657	2961.233293	1658.137113	2197.415503	3289.406264	855.936519	302.2645779	489.3807452	998.9124622	1958.482551	1502.686759	1651.420122	6109.582754	557.5102215
TCGA-32-1970-01A	2910.033284	6556.046601	5682.401238	11010.04951	4085.483409	2342.428539	406.6422056	833.4047287	1990.852465	4365.049926	3328.324094	1746.231763	13728.4103	1407.363258
TCGA-28-5215-01A	2635.591632	4540.025632	4127.112919	7355.888912	2704.074716	1699.991852	1224.63868	913.4434889	1194.425554	1959.824729	2658.755028	2926.64474	14311.95747	1499.57812
TCGA-06-0132-01A	1087.721353	1935.067425	1129.485399	3085.898891	2373.125854	834.352813	139.2134838	482.6067439	730.406745	1049.669668	1799.566301	1196.307871	3432.076421	158.7033715
TCGA-06-5408-01A	2137.012891	6087.185322	4389.313383	7679.202282	4400.842143	1894.908929	386.7374972	774.5230635	1540.661574	2669.431993	3543.521621	2877.997743	14312.4316	1412.797144
TCGA-28-5208-01A	2339.485318	3859.948047	2756.092106	6020.018763	3187.903521	2135.743313	293.9561275	977.1507135	1354.22547	2558.431951	2493.558875	3758.583865	14955.2714	1070.405761
TCGA-06-0211-01B	2567.741363	7727.009048	4413.66095	7583.26517	4273.019458	2395.041884	377.4569463	977.2515458	1980.356307	3678.395501	2629.78908	3080.669159	17874.9132	1327.821148
TCGA-28-2509-01A	2567.958711	3371.490793	2051.613126	5503.752182	4643.176206	1273.652444	692.3948421	733.7024889	1547.069725	1495.926924	2948.579171	1667.058604	11934.95939	943.1912692
TCGA-19-5960-01A	3853.651839	6466.263117	4382.801011	8451.325568	3711.072746	3723.121683	555.2552025	1941.887091	1768.181576	3466.077683	2467.01995	2036.270435	16150.59662	2800.373887
TCGA-41-5651-01A	2288.970071	5779.073347	3332.64057	6368.598357	2825.687466	1295.226773	586.6445946	951.4972067	1814.661676	3804.06855	2888.096466	1785.857522	12459.7167	1154.08642
TCGA-27-2521-01A	2090.129389	4694.555063	3051.003232	5449.527369	4316.611352	2191.707481	346.8297016	100.6629741	1613.352939	1994.957122	2459.837039	2576.057018	11134.24005	623.1953213
TCGA-12-3650-01A	866.4914397	2359.707991	1237.712665	2769.810243	2849.423773	461.0178814	288.8304799	371.2212258	1217.346414	1906.09602	1611.711107	1304.365853	6943.966121	495.2702139
TCGA-06-0743-01A	3051.341725	11122.59764	8316.103233	6329.031197	6061.331459	2032.77687	218.7302735	1024.005907	1581.169589	8118.048956	2919.668277	2147.038953	10086.62142	864.0389907
TCGA-76-4932-01A	1784.176089	4328.709524	2338.219913	5221.766177	5081.318005	1875.225249	256.6811421	603.4428359	1540.086852	2323.690792	3320.38851	2382.775885	11440.23007	871.747275
TCGA-08-0386-01A	2995.249787	4944.833557	3268.932967	10335.62895	3784.678562	1876.528898	498.2996551	1390.223326	2165.477276	2470.781222	2716.11475	1969.210453	15317.53513	1066.383069
TCGA-06-0749-01A	1744.146972	4119.86286	3927.26367	3677.960151	6029.234517	808.5255304	174.0236329	609.0827151	1357.970933	3880.335949	3559.663187	1733.392703	4925.455407	481.9868035
TCGA-27-1831-01A	563.2270247	1680.350506	1013.638998	620.0586673	6122.549193	582.7363945	173.0396281	764.2583573	363.0439256	1480.167407	838.9029028	2089.199039	2972.210082	287.5511467
TCGA-06-0139-01A	271.5130134	1023.10613	653.8860116	729.0453233	776.0198931	171.9269255	54.49050097	142.8026922	232.9938662	552.4209409	401.1628261	597.5165279	1518.218096	80.79626006
TCGA-32-2638-01A	2768.638113	7181.722243	5600.7956	9199.218552	2996.501264	2162.68345	222.8219312	1014.293497	1813.831014	3659.925838	2891.643885	2145.543301	15138.78415	779.3726371

ENSG00000014164	ENSG00000015479	ENSG00000023191	ENSG00000023734	ENSG00000026297	ENSG00000031698	ENSG00000033030	ENSG00000037474	ENSG00000037897	ENSG00000038358	ENSG00000040341	ENSG00000041802	ENSG00000047410	ENSG00000048162	ENSG00000048544
582.1667421	160.7475333	3496.258849	4093.631438	2142.9384	4124.043134	646.248529	1318.564226	475.7258079	871.0778492	1108.940753	1326.167149	2861.957771	411.644021	1357.664977
1428.738396	120.7244036	7606.635148	4967.659549	3607.763995	7265.414106	686.4329724	1729.052822	16550.21824	2339.658896	1205.248591	1795.900219	3531.937097	960.8066169	1079.535576
1384.335453	337.5875327	10091.37497	6072.044212	5112.525286	13190.83634	1511.213989	3492.558266	1665.280782	1519.143897	2759.608153	2501.319705	8551.83988	1285.778019	3946.828738
1099.444442	278.498214	5868.20677	7443.592189	2345.412198	10282.6113	1353.002517	2901.369453	1103.601132	2206.163091	2492.974684	1611.756455	6309.855057	1234.536859	2223.829022
1436.447494	124.7842319	8352.923125	7107.93846	3009.109836	7882.362739	617.2532997	1970.828823	864.9166606	1605.049089	1196.404544	1792.701713	2172.769717	1114.485124	1346.907663
1199.610529	209.5576324	6624.587197	9904.805648	3358.267977	8477.461569	939.8018312	2331.863247	5821.63933	1399.545617	2448.40295	3423.487444	6903.640983	665.0247315	2960.536144
425.2113761	48.66877197	597.6866733	1258.557366	130.63723	1558.254541	246.7592123	453.3880336	204.067307	328.7276703	221.1440691	261.27446	1752.929629	225.4132596	241.6361836
919.6980713	177.0310841	6270.570535	5623.975295	4052.284694	6176.657704	864.6457219	1943.024094	518.1397585	1337.448252	1824.283733	1887.971745	4303.798369	457.69012	2063.923371
1157.472414	166.0270129	5310.034406	4369.529111	3152.626574	6388.266654	842.3984232	1914.027324	652.7880279	1797.053747	1547.069893	2067.790978	2743.219053	671.6547339	1561.219922
1238.321404	277.7282211	4967.25585	9066.122051	2939.895717	8290.494745	1328.289701	2234.678383	951.0934252	1440.051561	2265.971703	2594.551571	4091.042871	1013.121257	2346.999052
917.7550069	117.2072659	6789.175593	5669.072193	8395.79972	8643.482999	1261.636702	2746.630647	1075.874243	924.3893804	2113.047974	2503.370284	3515.112249	1131.160689	2388.374476
1806.097553	288.6616561	3045.336868	7656.946649	1308.134393	10315.94783	1691.853815	2772.372824	1773.830237	2730.512524	1440.692012	1754.644266	11714.77954	577.3233123	1133.716474
1340.032319	220.7679145	6391.664947	7712.416226	1793.136773	12973.24814	1156.862434	2613.545049	5554.867787	1996.551751	2769.721477	3216.077566	6439.867549	946.6990917	1854.836102
651.1327285	58.84310584	3994.578709	6382.06538	2897.781802	7115.192601	742.773631	1160.463218	23983.87115	703.2233468	1432.492003	897.1162037	1905.166132	583.607853	1974.620289
1336.731553	422.5867153	8649.890253	8750.610403	5900.887035	9872.764246	1765.886974	3399.305055	879.111742	2752.287571	3566.807043	3427.769445	7592.328681	967.7892652	2856.292073
286.4528343	70.87492808	3473.85585	4483.823575	2958.043874	3708.136862	343.5465264	822.936665	479.3901386	397.6870965	785.5304529	1243.264363	1064.108295	522.7025946	1609.451492
1435.427596	179.1823199	8417.630963	7664.474509	5149.030402	10786.38185	1301.533115	3404.464079	1959.1913	1563.414967	1739.643732	3737.231244	5676.73218	1463.978625	2412.069691
1130.170084	486.8258909	9029.486867	7986.751145	2083.312571	11821.98926	1500.416826	4092.144018	1044.894595	3244.786315	2331.582981	3388.351378	6772.38501	1151.758815	2265.73735
1283.958318	196.0567059	5546.060619	11024.99313	3412.878418	13085.71959	1034.625334	3899.823606	14681.8769	2976.012932	3305.260335	3037.813415	6111.8547	1771.969032	1616.402298
635.8070396	118.3784879	4556.617117	3328.917638	1814.818592	3926.538069	529.8391997	1127.45963	336.9968243	1183.784879	907.8866287	1171.374231	2323.655157	354.1807984	887.838659
1732.977715	339.4708462	13393.38218	3589.589874	2725.196515	14272.44403	1377.790626	2929.507673	569.9757418	2429.731149	1922.620379	3374.801221	6176.483452	924.1150813	2158.364022
1049.919649	241.2621901	7287.453188	5825.575965	3305.196643	7385.674554	598.8642504	1835.690577	587.4209845	1604.918047	2049.298207	2199.967875	6145.033805	472.0347197	1275.924151
1257.782932	398.9530236	5959.729282	7680.337026	2178.519343	12073.7335	578.7766772	1815.924108	421.5538107	2680.649873	4854.256002	1549.627878	3309.541339	678.0236116	1810.02825
1070.923245	357.3342681	4706.880389	10538.66201	2848.958107	8750.911109	1076.321043	2481.907802	10693.03905	2164.517243	2862.992384	2793.900561	4317.15933	993.1949446	3024.926342
1524.591406	267.1645292	8434.76585	8912.361128	4713.02986	10339.98935	1200.693096	2804.711795	1254.332307	2556.114685	3394.74311	4372.627179	8303.762394	1097.540769	2176.514118
1542.596173	138.4136418	5131.80509	10852.58409	1497.731062	17055.4244	900.1659599	1751.648501	1102.53625	2579.266621	1568.369748	3410.703048	5164.260703	920.2120735	1963.564559
322.229722	54.31872456	3136.676179	2552.059398	1405.842244	2792.350705	221.87818	569.8862797	341.5635053	427.1845457	664.7138836	652.7453511	824.9080883	237.5293379	854.3690914
1320.693852	331.1893814	7741.297811	7409.092511	6888.942317	11570.29406	1304.439159	2963.433821	1272.94569	1738.236293	1691.504049	3205.222388	4639.699095	997.6318177	2118.189755
258.8572804	94.58246784	852.2378155	1877.710888	336.5144645	2559.700261	281.7561937	690.9498177	293.7034528	545.5914987	827.3476924	464.9474998	2044.972515	122.4594057	575.4596464
1839.244478	745.7243371	6310.457206	7998.259067	2109.752326	11048.00005	2339.527332	3565.690318	49421.47046	3273.249401	2986.030644	3792.332028	7629.574625	1358.80583	2512.903018
275.3343998	135.3338575	2234.408655	11004.97596	3542.947056	7000.027114	847.4699492	1199.337979	1046.270719	294.9344757	1330.938489	1457.872314	2406.142653	673.8692768	2595.610054
1381.666502	125.7754401	7657.395129	7180.380127	3435.99869	10889.35811	754.6526408	2184.765979	929.8065871	987.5701225	1388.188191	1686.322568	3611.152637	1466.448465	2707.432808
319.2796249	63.85592498	2070.756424	2349.492605	1434.224347	3014.405094	306.1030055	524.0240193	365.904586	474.3582999	489.5620915	724.7140692	945.6758414	285.8312833	782.4884776
167.2594751	43.1637355	2930.637792	3709.38352	2276.887048	5007.892563	224.8111224	457.7154452	538.6474493	165.4609861	660.0454554	888.4535558	642.0605656	294.0529481	1333.579578
1310.697681	377.1720668	4241.94831	5273.479265	5498.19858	8711.585795	1299.808199	2467.952658	7374.159385	2575.857527	2174.92659	2102.660026	4917.096209	1046.380248	1367.124998
1908.746985	115.5006	10331.32953	10195.91504	6771.720524	12463.11216	1174.919897	1938.61783	1485.576683	1689.694123	2608.720449	1293.407581	3595.454023	1055.436518	2990.071568
347.5242368	150.7442793	3110.567584	6622.819026	1063.333898	6447.702917	763.6506605	861.1379789	857.5273375	417.9317445	1356.698514	1678.0456	1620.275338	634.5702297	2802.760403
1159.915429	172.8182498	9063.808911	6595.557673	6040.506118	9187.83142	872.2238723	2856.584011	942.3677502	1280.888204	2199.874662	2504.848044	4840.944149	1076.556038	2196.824928
580.1264112	258.9214504	5098.350209	13154.2774	4969.334366	13286.8523	886.2053766	1713.686301	848.8352704	970.7329979	3086.592823	2287.584361	5044.964343	1183.386698	2919.317109
1648.59903	292.5948661	7924.182108	4011.381229	2804.296315	13894.58559	1265.813632	2863.025034	913.4413203	1375.92998	1794.3721	3482.822761	5889.651498	1203.938732	3012.993012
1273.518376	141.2793793	13160.02388	6688.225934	15788.22113	8861.523619	763.5098369	2603.147712	864.7099597	1278.528283	1878.71515	2952.839225	3880.674014	975.9298965	1550.065246
125.3424849	48.02082216	2261.048203	8730.836598	2083.615334	7461.947416	592.5281107	533.9264294	644.618494	129.4120461	1679.100951	1287.609164	1255.052674	617.7593901	2974.035325
947.2380081	207.7276334	2886.375465	6427.092976	3455.549181	6323.229159	613.8351566	1998.339833	439.3439445	1622.352816	1955.755668	1900.707845	4670.755836	449.7303262	1308.68409
1734.381472	77.84476985	7405.632439	6497.443457	1378.371392	8904.403741	1119.926756	2498.298147	1026.513032	1763.44352	1884.881361	3009.997768	4853.361918	1151.064664	1730.229751
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2785.003295	503.2787987	6543.594092	6813.173101	3487.07237	10412.73168	1046.315653	3829.37953	748.6150917	5111.334389	2522.212245	1472.017758	5667.947164	1036.618566	2048.994415
933.2746035	141.2046681	6678.539538	4028.745688	4226.211591	5321.65093	779.9351591	1768.367836	603.429324	1408.737197	1321.587441	1569.798772	3243.294721	428.0266503	689.4759186
882.9791688	130.499901	5322.08064	5573.608675	5106.334836	5444.161192	713.5397812	1617.567321	665.1285277	1954.341259	1518.639977	2187.978179	2945.719539	496.7415586	1328.152218
585.3440157	42.79066597	7971.174437	4249.193868	2387.396213	5675.011153	410.9518675	829.1700746	54455.56299	490.8816021	1545.308201	1487.984856	2166.176543	934.1283119	1838.383895
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634.790362	122.1945558	3784.924589	3369.670209	1981.00157	3913.332427	476.3516583	1402.130751	399.7211741	992.0541057	936.1345632	1132.888509	2525.699336	444.2496987	761.1271061
1832.47874	320.5256255	8743.81254	5363.532424	4858.493691	10477.18138	1187.210047	3567.956305	550.3762385	2897.382957	1702.792385	3486.770538	8930.434368	1064.904216	2887.893711
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1520.103221	358.7953132	9475.168538	7013.493002	5443.498125	8086.694368	1320.536597	2981.822588	807.8202171	2769.517669	2258.924339	3141.051278	5849.000521	873.634742	1574.240975
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1766.63609	585.4668848	7779.954181	12199.61504	2444.22189	14517.94107	1364.383492	2851.592205	18401.26513	1818.836808	4430.919833	3376.670023	6207.791358	1351.077427	1658.140478
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1877.115258	220.1177501	12773.96295	8434.789896	2495.686898	14653.11634	1086.321859	5046.403234	1309.4968	2829.939778	2581.288245	3756.268643	6390.548198	1232.047962	2881.912024
2111.370558	683.4311682	4182.725116	4193.255642	6716.369785	9102.587084	1341.589073	4622.901122	13029.42041	4337.523855	2070.301505	3772.034583	9815.503727	1080.432016	1771.234553
1546.523246	187.1872516	10944.88317	8912.56444	3084.132813	7368.269614	989.4183301	3144.300144	892.4820748	2833.435601	1761.565743	3389.426306	4694.166019	771.0332032	1536.495357
1422.145332	266.1135583	6364.100361	8692.324651	3176.124575	7909.067335	1021.35892	2448.891167	12045.14001	2022.247567	2672.986795	2919.707462	4555.174594	714.3048145	2279.742063
1005.848916	328.4586284	18561.9181	4403.481936	1903.991886	7330.235243	553.6619698	1834.561607	234.994791	2110.50246	1762.460933	1322.735831	3386.061307	369.4046904	868.7686214
666.6174424	183.4726906	6477.60527	9316.33551	3920.199822	6388.926803	579.9775607	3024.241516	815.4341803	1104.913314	2583.907059	2015.141718	3252.563087	951.0001128	2310.736608
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1174.036149	129.7929411	7889.837573	5763.986522	7413.930122	8352.962385	973.4470584	2596.842102	842.6708375	1595.863208	1792.519179	2240.894794	3758.095614	1031.46057	1948.860677
483.7956279	142.3557932	1714.691584	1796.037751	1010.405028	1579.828201	331.806736	582.2673044	237.6164367	520.1873344	533.0314661	519.1169901	1350.774519	306.1184725	540.5238763
1899.79149	305.4778361	9552.928798	8153.991428	5037.685729	11713.94162	1789.689938	3502.740559	1415.128774	3025.633833	1853.376129	2661.86694	5506.157039	1241.34103	2750.379952
923.8435629	171.6701787	7625.926725	7718.21185	5641.300382	9980.685882	738.2809998	1918.141361	580.5032055	1536.10079	2616.729834	1947.910756	3176.394463	711.4885442	1898.295098
1257.596361	479.7938723	5889.64362	7485.976442	4703.569327	13191.84808	992.3686923	3149.951074	647.6720595	2393.009189	2015.531608	2458.571085	6135.99741	788.7294712	1985.730747
1462.284347	155.1522227	8176.420729	8097.323517	2919.49836	8419.796764	916.7164007	2336.409942	938.0118038	2091.005772	1282.794521	2807.951011	4827.972106	822.4081869	1833.432801
816.6458688	179.9567572	4097.962646	6874.137648	729.298437	6072.225081	917.6742237	1555.415714	1110.259525	1149.197537	1833.24369	2217.361914	3544.411451	725.0889222	1590.144211
689.2464053	101.6020597	4390.856582	11750.14091	5427.929858	6899.786724	1276.890751	1813.2764	1045.311281	854.0065022	2212.361968	2247.144655	3385.819991	664.5323907	2177.57928
971.0819675	205.6408872	6720.718087	6849.503289	2942.326432	10195.84136	694.8169371	2031.482704	526.5653021	2407.452407	2926.747577	2083.412221	3535.361516	653.2733236	1653.435821
1024.590225	170.229724	6077.950585	5963.393475	4033.052643	7187.120359	840.4423479	1883.233236	626.316909	1615.576437	2331.82603	2679.779869	4696.841504	587.7743299	1837.196266
1079.893004	309.8470049	7402.803688	6060.810595	2439.156259	11346.49573	924.4615557	2182.135628	584.1377962	2735.79667	2579.34933	2389.377559	5594.51625	711.1242736	2025.688288
526.2547793	71.30551399	1816.784152	3099.279101	581.491445	2540.886625	227.9767842	685.9389585	380.6308423	523.2418702	1001.290105	1438.161916	1184.073253	289.239268	800.4295021
830.1368528	120.8374681	4924.540652	4512.369014	2119.621615	7068.991884	469.2797563	844.2069689	8297.230258	1146.300639	1530.332045	904.625703	1395.42446	451.8990246	1287.001801
1251.60939	216.5634568	7538.31915	5864.198702	2703.858453	9268.703633	855.6379714	2150.77237	853.5148002	1558.40762	1817.4345	1955.440624	4590.296015	779.2038102	2131.663829
895.8493955	220.8943715	6057.210011	5373.051055	3913.71648	6069.481921	746.541163	1629.09599	495.9896768	1506.376895	1162.763428	1898.05534	3286.826435	569.6211339	1562.623147
980.0267686	263.0717017	6418.723709	9492.03346	5535.796367	8123.608986	1244.227533	2646.5239	985.6720841	1982.634799	2638.620459	3157.989484	5745.802103	824.2160612	1542.300191
1580.147453	389.0910946	6084.661714	9552.233938	1242.427798	11823.99319	412.8741688	1796.097767	372.9186041	2698.903265	4281.904686	1635.324185	3935.623125	637.3863897	1380.369629
2204.942583	270.0353611	8672.289481	10976.93743	4117.000659	14074.0353	1922.444051	2436.549835	1108.183578	2659.848307	1987.875697	2613.111417	7112.315972	979.3974827	1903.749296
1294.719608	226.7888787	4969.125337	7607.542432	5368.401531	7668.232413	1231.900153	3326.236887	774.0634497	2238.076164	2474.447671	1839.864706	5294.934711	1041.312316	1999.575184
1587.653013	502.9469047	7916.48798	8535.579325	2328.073817	9032.304206	1514.025734	3292.487469	1107.520194	2894.277961	2442.144249	3371.299767	7960.042145	1500.544683	1954.752403
1227.346582	168.1296687	7047.785552	6387.876602	6285.94799	8775.317898	1043.454757	2572.383932	772.3456658	1854.680408	2102.67167	2989.555672	4607.803734	804.9207891	2291.817547
628.0687055	302.5960154	5035.987982	6489.696674	790.2851262	7883.094134	806.9227078	2223.196842	336.9110275	2351.09825	905.7083486	3786.089664	7014.820344	565.6777745	2151.447271
1028.67121	184.7088705	8285.371837	4483.120087	3156.753197	7752.860093	921.5793647	1660.414847	1067.97097	1250.714852	1466.86353	2029.832588	2887.549843	1045.373608	1809.753934
1518.411227	246.2288477	9778.957087	8432.258082	4882.458861	8082.35393	1440.654749	3254.972574	1173.906831	2521.685787	2477.407792	4155.65178	6285.315323	881.2400865	2042.187504
1612.018438	233.1226665	7000.624074	6706.988715	3123.843731	8785.252487	1030.699789	2491.932503	1167.597355	2425.467743	2292.538222	3218.084809	4591.028513	973.1631311	1814.388753
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1340.969365	121.4610674	8229.966842	8843.149328	8406.281295	11033.36664	651.3839503	2196.094461	441.7656565	1674.007776	1782.735022	2330.28935	3925.935147	939.364223	1816.038863
1338.024789	106.1322779	5733.038226	7992.139571	2105.588585	12013.79482	1305.806062	1895.219248	664.2743466	1652.631185	1438.47141	1871.529008	4381.746902	853.7962714	1810.881992
1293.968509	226.9603079	9271.96721	4580.471668	10642.57167	7227.359415	1123.011394	2532.916336	429.3578119	2150.719108	1782.27705	1946.35658	6284.147746	384.1622527	1423.660113
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1223.00008	640.4738574	7138.741947	7130.608945	1823.825556	9760.618261	1586.951891	3522.606215	870.2311459	2433.800658	2257.924503	1778.077423	8754.159342	1072.539555	2597.47731
251.7376065	52.08364272	3017.957742	8159.770693	1380.216532	7310.517963	408.7119186	423.1795971	4817.736952	380.4999454	711.0863999	1140.053068	551.9419361	771.8506498	2209.214512
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974.3735858	165.7030436	5407.674178	7695.765307	4314.232537	8208.750178	968.420183	1754.269348	803.7093732	1316.694245	2195.813386	2131.31819	2847.710989	868.2045698	2259.316349
1216.785715	452.9360073	4333.599595	7636.577852	2428.773378	11088.29569	404.9554981	1629.418094	304.1964286	2499.784532	6064.736369	1361.686852	3915.209555	482.683923	1540.174347
1799.869016	207.0828117	8021.625733	5401.667572	8952.983254	8040.170462	938.5693607	2758.013368	805.6654666	2232.579368	2470.570062	2954.793553	5629.355639	784.0299489	1863.745306
821.7556532	101.4637176	5641.784533	4624.133584	2975.599321	5467.990245	457.0890247	1611.364386	627.8695394	1186.422282	1393.368082	2332.660913	3260.90324	534.4425519	1290.899773
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1135.299952	139.0367342	7438.965412	4723.247906	3981.051814	7195.901194	996.2632178	2903.76719	1011.267182	664.1754785	1367.361264	2177.575326	4760.257684	1017.268768	2217.585897
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667.2976207	101.7327122	6152.242663	6237.594684	5616.852711	9707.71474	680.2297451	1043.191371	888.8680193	831.1045301	1650.139077	1523.404258	1913.092274	834.5530966	2213.979703
1982.485594	500.7812926	13578.66845	8608.8758	3823.753037	6214.684978	1767.399486	5018.675861	952.6793788	3567.387776	2461.541017	7772.429823	8587.149931	840.7911507	2267.094485
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2477.743764	114.7752592	5230.597692	5795.712518	1855.679382	4123.147863	860.3763708	2411.156591	726.3258772	1020.711275	900.6791336	1462.289372	7392.052383	787.6561684	1093.431477
2603.684709	119.1228298	4024.202063	12813.31732	3939.114327	12309.95619	994.1830157	2391.4132	853.5643369	1757.285655	3675.790177	2057.33188	4236.473572	951.1913178	2752.364331
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1009.588503	621.9317313	5705.593299	7358.12474	2367.963045	9779.666363	1723.969546	2603.288565	13160.36959	2323.83951	2567.569512	3144.327148	6219.317313	857.2572513	2311.232785
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932.5095929	59.20695828	3614.584803	4049.755946	1675.556919	4471.112133	405.5676642	946.3245498	293.0744435	858.500895	1123.945425	1225.584036	1811.732923	491.4177537	867.3819388
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993.2083154	135.130383	4085.763653	10350.02212	3943.876751	8213.996855	818.5040345	1901.477533	7552.823195	937.2257282	2201.660027	1693.955873	2502.807737	983.5561452	2135.060052
693.836859	90.23889785	5414.333871	4758.59788	3365.91089	7424.655984	548.451968	1885.992965	539.4280783	1396.697608	1054.79245	2419.405117	2670.068722	476.2608498	1295.429511
2221.910109	189.4185885	12612.87268	8958.797685	6945.348244	10287.73445	887.9622719	3764.318615	1471.251259	2518.565676	2340.17145	2665.891245	5229.556586	1451.206964	3097.845804
1852.215371	200.1848491	10218.52662	5434.310929	3699.37557	13109.07451	1129.325639	2632.734076	1207.175302	2007.914699	1779.420881	2675.197529	6723.380033	1289.069104	2056.444359
959.4483008	198.0318237	9652.727662	8360.755336	6333.841377	8499.483512	1404.225659	3369.717984	1163.834087	1472.001256	1086.527546	1932.66352	5248.372824	1296.2083	2226.004777
1231.443374	165.8255806	7164.418835	7727.848933	4162.59895	10935.06641	853.6248638	2265.968871	927.1157461	1850.462729	2439.331978	2909.485187	4432.065518	1127.802386	2232.050003
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1256.801213	383.4828763	8542.975864	7600.119299	4624.292178	10678.20852	1196.466574	2365.322381	1049.20915	1148.403387	2147.504107	2609.728801	5499.655757	1191.353469	2307.032984
1027.473756	121.4104731	7529.456117	5859.811264	4445.028065	9771.034604	965.2634308	2487.40961	662.2389442	1713.794116	1612.45149	1932.533646	4091.833961	905.0598905	1604.424351
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795.6590117	175.6271721	4368.362037	6736.903071	2778.984646	9749.733841	559.8722558	1885.323731	609.3583651	1184.755675	1650.507291	2604.32779	4597.356582	925.681338	1618.486868
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1002.233306	155.8318026	6477.69322	6442.470964	4306.721395	7532.226241	783.4283776	2166.702461	1058.802385	1609.5504	1858.240879	2910.639218	4538.334416	1115.371464	2736.662616
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1866.727195	219.9811925	7189.856994	5325.205094	8329.193548	6533.026358	1656.084827	2971.821393	934.9200681	859.1718273	1756.736599	2421.868412	5646.875705	1221.310677	1537.793053
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2001.116001	301.1241491	8478.81007	9905.876689	4147.255003	10435.61349	707.9942367	3091.809825	1042.352824	2953.836552	3989.139647	3656.795268	7241.079036	813.7401754	2195.487107
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1108.92415	274.696933	7272.880052	10386.78772	2588.841206	10390.84229	958.9051608	2508.763502	1399.839352	1744.477571	2553.363742	3011.529844	6112.260169	1472.821563	2970.984172
1839.714815	332.9894156	6424.006987	10397.12914	2376.427569	12313.36948	1179.940755	2700.109827	1467.428512	2714.587627	3354.713243	4236.824956	4469.503895	1248.193244	2807.659203
968.7626696	235.0601808	7462.91486	6731.179402	2654.508066	10575.7411	846.80676	2472.557717	899.9165916	2497.145602	1207.756912	2981.035179	5640.460823	847.7902754	1450.685216
1931.84631	450.8310776	3734.166543	10183.36033	1363.538092	8975.454349	1090.428842	3977.153449	14148.46484	3810.47648	2369.624372	3646.811746	11324.99716	1012.110749	1359.52178
2171.83318	305.324028	4992.719954	6651.839201	1323.070788	8174.618787	958.2181758	2602.935345	10111.21805	2619.257699	1984.606182	2425.309732	5963.41993	1065.753683	1304.828157
2602.595439	209.5620097	5420.243595	10417.7027	1227.173166	11893.78795	1105.462479	2382.052014	1520.926026	2031.56184	1979.400117	1545.634211	3964.290942	934.3354229	2685.871172
749.8483612	125.9004656	4101.022519	5647.931916	1398.791202	5970.08899	510.0820334	714.67029	398.9933873	1130.326974	1151.618965	833.1648458	1358.984437	411.9537293	1091.445948
1324.351954	122.9677657	9359.696926	6655.494291	3014.342575	7643.589258	1610.551267	2934.903222	945.6547644	1185.061034	1620.34516	3377.80482	4421.398513	982.6539152	1740.048295
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1673.719848	248.6046419	12610.14335	5575.068132	2583.089459	9686.858065	972.6111429	2595.083543	750.1754107	3565.513943	2306.135165	4299.333785	7269.505033	789.4287752	3408.500485
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257.4206425	30.06372467	2062.183614	1738.059083	3067.439408	1848.919067	256.4811511	405.8602831	255.5416597	246.1467458	323.1850402	366.4016444	581.5451741	193.5352276	632.2777095
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1462.660956	277.3668115	1469.645012	2680.879937	1209.239481	2493.308137	1589.371693	2759.700003	623.5764648	1031.644903	1065.567463	3178.743387	1195.271368	1435.722453	687.4306948
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1488.239817	157.9600494	307.3817177	503.7644818	661.7245311	853.8381047	227.1209359	1588.138875	87.09148668	178.4521639	165.6445923	461.9264146	411.5499665	432.042081	51.23028628
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1979.643382	558.1373412	1982.259651	3470.916591	3981.089004	4407.540816	2321.502504	10843.56203	535.4630117	329.6498671	561.6256996	8480.199228	3198.824637	2807.256408	227.6153845
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453.7964145	153.5623442	281.5309643	1489.357864	1010.952099	1114.311369	1240.311241	1136.951971	329.7652904	581.7650347	920.3896911	1347.608008	730.4055089	1684.263916	274.6403463
2495.753742	476.5068288	1484.653508	4474.635407	2697.579981	3959.732367	1983.804256	4874.349813	750.2028999	1593.935033	2032.04565	14076.64181	2569.59261	3268.600561	693.1008419
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1977.615468	785.292349	1592.960735	4269.56098	2961.095574	3517.299924	1887.045794	5218.944268	1330.841444	827.913372	2800.201212	3426.73025	2880.11563	5191.240603	589.2356431
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3176.064703	390.8006195	1088.1962	3688.855571	2285.427932	3711.526325	2122.414414	4827.791078	1101.150917	1101.150917	1667.919771	3675.900855	2078.152466	3456.750231	644.4971542
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2071.431742	315.0103571	4359.552427	4837.795424	2471.399438	4427.327383	2077.159203	3908.992159	465.8334978	606.1562932	1971.201174	7646.160486	1852.833646	3743.850365	674.8858257
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727.7871999	56.7494807	457.9782653	804.4487791	821.3740628	1708.458051	745.7080885	1318.18092	128.4330353	100.5560974	491.8288328	465.9431047	1052.354405	850.2466056	69.69234472
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571.0202509	353.4030844	268.8741024	1759.821466	446.9245114	1025.138718	2087.14646	770.6525276	283.2620142	578.2142068	1032.332674	1294.012821	477.498824	1544.002789	497.2822028
2792.657219	300.9456911	1943.277604	2866.903689	2120.479179	2434.294258	2992.627711	7074.203647	992.92279	675.1478991	1327.526881	3663.815799	3280.704014	2374.897082	391.0314078
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981.1918061	306.9045208	323.1524072	3655.774439	1139.157368	3757.775059	3104.248962	1881.14418	271.7007669	1122.909482	1367.530438	4599.05451	1201.440933	3582.65895	489.2419125
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2218.057856	465.6348407	1253.228907	3806.879441	2750.811232	11216.13653	2010.409886	3929.580513	399.5650322	5235.245776	1718.863747	1583.577949	2692.082513	1994.67898	984.7547644
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2361.623157	400.7864118	1210.978298	2847.522813	1568.669397	5045.38378	1764.753071	4444.204163	776.7930185	1883.265182	1594.526584	4397.876701	1911.277136	2522.153199	652.8939934
1531.916801	142.4210855	1160.731847	1037.89366	1093.081831	2041.072181	2622.328236	4319.809549	1035.223265	364.9540315	1628.051033	486.0119542	1464.266785	1696.591181	226.0934732
1591.115944	331.2701357	986.6753582	3556.312319	2289.331461	5976.113249	2494.209299	28617.66256	956.0965764	3070.109689	1814.341051	1123.260583	2263.849143	3355.511652	735.9293477
999.967853	350.5634427	586.1880517	5256.809657	859.5782776	1765.132089	2625.531358	966.3071945	236.4456007	862.0412526	1408.000713	2377.591874	958.9182695	2939.971167	667.466227
1449.354509	334.3151514	1153.387272	2372.654295	1607.662566	2919.357895	1575.214331	3688.282744	651.9145452	1302.845811	945.9152224	6111.084311	1888.880605	2319.557183	558.5029588
755.6630825	116.6675297	374.6205083	719.271376	741.7486065	1111.017393	461.3183974	1717.902617	230.1240265	270.7971103	327.5253587	1093.891884	643.27693	553.368008	110.2454639
1963.477682	368.0846011	1809.119623	3419.624682	2439.504981	5771.696077	2403.883891	7414.583945	1150.669164	1987.225075	1697.938644	9092.013476	2085.452931	3335.429377	754.519461
3242.879445	222.2781505	1386.261501	2328.959014	1553.962427	2897.554462	2357.736096	3346.080015	794.8428506	861.3278331	2083.857661	4011.922154	1853.641005	2651.460795	317.540215
2358.241517	302.9754266	1724.476526	2271.819018	2145.662037	5162.502597	2686.050995	5655.210176	1157.266793	570.1898192	1259.583085	5422.763455	3227.433315	2418.836602	291.0550819
1999.739759	277.8543073	1442.003011	3710.470476	1449.101479	6016.458413	1420.707608	3859.538298	1008.996481	2478.379296	1041.446619	7177.564916	1942.952017	3415.377033	377.2328552
1580.672803	97.87121882	761.9221766	2730.922719	1507.006294	5216.641201	1337.573324	3413.916493	454.6275971	856.6362593	1457.544495	3432.859309	1660.653584	3377.083239	368.3325439
1545.083575	213.2727921	770.7111198	2981.24242	1535.930236	3766.598881	2081.469224	2185.817285	475.0582793	1143.252006	1247.600067	4873.237532	1961.560487	4884.221539	607.7816907
5022.622882	342.734812	1408.3285	2026.289752	1757.294854	3146.928729	2010.710897	4261.336163	1038.59034	707.2800212	1670.053266	1369.900658	2124.955835	2343.059806	370.7767512
1871.456337	231.2554741	1347.919638	2010.637872	1785.806161	10601.35048	1649.836507	4534.10617	839.3717207	4233.259928	1551.338805	2985.979246	1950.682749	2218.339548	398.2733165
3717.148167	449.0241842	1544.155566	2134.388713	1750.381605	5332.41616	1893.622351	4887.455543	1061.606951	1095.131381	1100.21084	1945.432834	2465.569446	1804.223871	438.865266
798.4208961	123.5292707	319.3683584	1085.651558	747.2014423	1140.888224	613.6291415	1119.797861	249.0671474	247.0585414	420.8029628	743.1842303	559.3967787	902.8684095	184.7917546
1236.514913	385.6867133	547.9068759	1747.177364	736.6119631	1063.53525	2198.248735	1498.053543	340.9934031	360.0294426	1259.689222	1930.088874	776.3393499	1848.151139	427.0694078
2974.562774	579.6257226	2227.206531	2236.760801	2584.960869	3109.384142	1631.657025	4534.03198	567.9482813	1186.85267	1139.081319	4752.718608	3197.495744	1645.457637	309.9829872
1442.972029	317.0243295	1177.080656	1310.026342	1043.11231	2688.570846	1974.754775	3586.46556	492.9216994	754.722436	1019.59115	6162.543901	1401.043004	1754.883063	488.8310629
2377.806883	413.2370937	1322.132887	2092.15392	2111.347992	5831.610898	1371.811663	5159.818355	914.541109	1580.688336	1482.459847	4235.115679	2681.524856	5455.632887	462.91587
5218.006489	525.1302793	3549.386	1755.190879	1475.501926	3381.953157	1701.916793	3365.780667	866.6552254	502.298528	2483.904274	1700.014147	1978.751777	1947.358119	326.3037786
2377.349775	835.0324243	2296.339167	3235.231345	2623.497393	10294.57884	2467.707761	4491.934372	526.5689541	4141.927	1184.001199	14687.84645	3044.129397	4133.61822	851.649985
2244.464583	322.6151654	1115.843872	2069.847794	2436.117157	5677.175122	1403.322733	5824.108762	853.9186886	1330.920649	1298.978554	5867.762959	2217.84617	2482.965563	412.053033
3043.606526	505.0209126	1562.764918	2978.275279	2959.609208	4666.517673	1479.804604	7364.801891	905.3044285	1082.6321	1360.549153	6131.804222	2924.351075	2803.021615	641.905431
2426.321282	343.6150105	1246.26117	3058.909161	1684.449119	10742.43502	1770.615574	3982.571528	825.9369977	5060.703029	1474.287033	3146.126426	2203.549471	2570.282311	329.9544749
1592.00859	501.2071458	1101.199932	1812.456546	2258.551703	4678.279977	928.5850233	4712.594989	541.761251	610.3912751	554.2394372	4277.93817	1438.11096	1747.985917	460.6530407
1511.07576	178.8139066	1010.003824	2957.306917	1118.078163	3581.190602	1967.935466	3110.575979	775.1877599	1923.723237	1517.953218	4729.726079	1195.695189	2047.51748	781.0827238
1831.597042	296.9865487	1334.819543	2957.986025	2803.55302	8518.654169	1568.088977	5493.711176	1764.640075	3499.04152	1545.410005	3949.381123	2172.861586	2447.169162	429.8205324
2085.207851	284.7072565	1566.385916	2601.053751	1644.754813	3780.555242	1783.636401	4043.438249	874.9540078	1062.444152	1301.518887	6194.118849	1870.9334	2711.167011	704.3280562
2115.067846	524.8429023	1058.514938	3239.310773	2188.643953	4631.370733	1825.668488	3669.976257	636.6785862	849.5587914	1499.971584	6205.89944	2422.125469	3345.260368	377.6906867
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1998.508697	309.8683471	1060.375169	3876.670973	1992.82304	3181.125508	2370.91928	3915.522967	746.7163839	1097.331945	1147.555255	5661.967505	2101.798146	2454.308927	972.2474744
1418.747552	229.9078443	1317.5488	900.9636464	1354.884262	6460.017421	1375.517017	5245.632397	774.2195784	2571.234311	995.2848134	7050.507227	2147.771572	1647.672884	289.8410858
1310.689442	391.6751422	898.2270719	2357.709306	1775.666916	2729.691284	1590.769991	4032.722274	498.8934772	606.1118122	1074.371479	4435.338063	1317.25383	1786.607562	512.0222529
2884.165608	406.6500682	1267.731587	3109.856396	2347.387518	8250.929883	1988.518833	7505.743633	1390.743233	1775.027548	1394.809734	7359.349609	3481.941209	3066.141514	325.3200545
841.2955067	141.7832496	479.6035434	4614.466068	515.0493558	1147.286908	6383.863153	1175.498881	159.1444639	185.1862852	1427.236487	1621.10338	673.4704357	2472.526261	598.9618913
2882.115575	536.5811605	1480.150028	3710.014251	2826.42252	5762.089109	2289.84136	6834.180409	1202.755775	2776.084567	1632.234907	2666.840498	3472.247749	2398.014408	494.8113696
1735.416906	233.1749416	864.2356346	2515.312668	1775.106258	2905.260549	1906.081118	3340.851185	541.7596516	755.0899173	1015.055171	5601.159768	1787.013063	2620.48945	766.004489
8933.011212	432.7841934	2136.092272	2146.647984	1352.090751	4813.404688	1531.537855	3332.726172	1285.877648	467.3301601	2247.407053	797.4360637	1710.98496	1960.483608	402.0766675
2171.793866	325.5630274	1393.945494	2624.079212	1936.893961	4241.591721	1957.499215	10457.16686	977.719345	1603.088831	1848.291365	4742.299415	2315.000388	1885.380823	424.4682509
1186.422282	222.0146691	991.5315766	1751.002571	1267.794174	2655.134708	1164.321274	2167.907946	332.5197081	999.5683067	980.4810727	2891.213655	1380.308395	1692.736278	285.3039187
2823.506552	312.5575604	2051.552309	2515.144395	2367.256422	6299.398348	2094.555195	5017.70258	706.925489	1281.695768	1434.827995	4027.587356	3840.8919	2428.089773	404.8564373
1876.174439	290.1923944	1035.82563	2149.237421	1328.033249	7072.432001	1592.027719	2927.114256	460.4789036	4341.802179	769.8159351	1532.578583	1360.276849	2134.123234	679.1308119
1205.500093	217.2591875	938.2520662	1814.018083	948.8266284	3164.678076	1586.184333	2738.811615	505.6563389	1202.616122	1240.107751	5589.136796	1170.892435	2146.636131	569.1037123
1028.271675	185.0488909	1161.306823	2148.567662	2739.723849	3659.966982	1041.27511	3923.036486	323.0853608	1163.307352	774.2045488	14284.77411	1981.523529	1906.503708	290.0766397
1023.215323	366.4054871	435.2065175	3124.046784	768.0115014	2234.433462	3101.646449	1176.017612	286.4042891	557.6083505	1527.222871	3700.05541	838.4125557	2588.038757	658.4098601
1131.63287	690.5438533	796.2730557	4457.146689	1257.186298	1904.777662	2535.02283	1590.068083	219.7184988	684.7617875	1386.043763	5331.890638	1005.253432	2631.665929	924.3045118
1144.924083	354.3402094	697.4725777	5019.388563	1332.870958	3108.020572	2976.112903	1904.470858	268.1260465	1948.440081	1698.419009	2790.752452	1001.808573	3130.436254	506.0771361
2211.693518	320.4565755	1574.039247	2097.632703	3994.301113	7366.156063	1869.511073	8520.886029	1869.511073	4011.681808	1655.511258	1628.353921	2465.886191	1632.699095	330.2332168
731.8122321	346.9502262	479.0670342	1025.915735	1610.676216	3073.151838	765.1286445	3097.277516	422.7737856	1503.833927	739.8541247	1352.186809	1536.001498	655.9886727	147.0517515
2434.018215	353.4476339	1512.452298	2778.792287	2206.337224	4755.280129	1616.535037	4926.58297	1756.396217	1991.666575	1494.02098	2969.610642	2285.483473	2436.186605	686.295559
1698.849066	338.1927486	1570.055455	2192.119837	2242.936364	2700.285107	1370.293935	6416.024606	375.8670703	1018.958981	395.1423047	3120.835675	1909.12435	1844.289471	496.7753587
2154.063201	705.7803751	1055.087921	4534.728476	3562.93697	3195.716216	2461.274709	4606.381306	510.5264135	427.2299987	1261.089807	4744.313004	2410.222068	3832.530743	500.6741494
2499.86598	592.3147167	1411.473368	3741.779236	2566.315214	4878.290259	1929.319116	5932.312579	1056.313673	1144.530758	1644.045684	8335.941739	2597.248477	3983.516963	556.7987473
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2677.87835	336.1793142	987.5267355	2816.552317	2890.091542	4567.836432	1570.587734	6130.019683	683.9147924	1112.543418	1048.459236	8096.668671	2907.951068	3064.484561	510.5723335
5719.720597	459.3451504	2053.180337	2073.732692	1925.755731	6442.135901	1865.126282	6757.614561	1576.365684	535.3888665	1507.515292	898.137945	3856.649551	1955.556647	424.4061457
1216.702993	152.9513089	551.6114946	1578.852221	896.9854179	1235.451863	1396.297433	1835.415707	310.836531	474.6424489	702.5892382	2015.010147	929.5492449	1193.020209	504.245928
1591.469218	495.7532846	1399.238352	2747.889634	1470.06025	1770.547445	2826.805463	2478.766423	270.134953	546.3403544	1236.347987	1892.968154	1968.848759	2616.363253	425.9431282
1787.581924	385.1215917	674.6866982	3004.720589	2112.860061	4136.920155	2308.799116	2982.520597	333.9650895	1923.677524	1778.894971	3669.755117	1993.17315	3480.572581	665.034528
1580.183367	332.8812676	1169.095054	2511.649323	1188.145488	3755.943459	829.1952058	1653.377139	549.4546225	560.4838211	1090.88801	3550.399303	1337.540997	1843.881479	397.0511505
3739.263247	717.5857638	1858.106154	3148.958757	2404.313194	8431.632724	2409.324268	4368.654112	742.6411326	1105.442874	1680.714142	4948.936455	2466.450509	2960.542383	718.5879785
1440.724293	271.9683051	2020.047114	2573.083035	2263.70645	3813.622479	1647.986384	5449.476448	734.0111134	1549.916029	1958.374004	6840.660045	1549.916029	2453.780953	514.616607
2363.67396	328.2880499	1654.148174	2665.487167	3304.060374	5939.895717	1778.050438	6511.75232	758.239496	4191.497102	1190.308929	5597.840748	1026.164905	2533.112953	576.092578
1538.597575	398.5467079	1979.542868	3444.649561	1689.348102	4775.96516	1878.728453	2596.677842	563.4300977	1566.863299	2003.097638	5711.560623	1977.658487	3364.563343	1053.369313
2195.694936	168.4894609	1043.994824	2826.99722	1512.139592	5221.040509	1944.027134	4668.651011	652.6300636	1435.359584	1597.450711	4551.348222	2607.321088	2548.669693	458.5472669
2598.792752	892.1550875	1274.044931	3863.128619	3416.511683	4145.770255	2801.604307	3945.116269	594.4104633	1904.055295	2133.836473	3261.166662	3319.421045	4572.969064	834.9794893
3184.408247	634.1652906	2039.358562	4927.056854	4795.417931	5980.168243	2167.863226	6866.119094	755.3566806	1563.995783	2616.062418	15286.83119	3545.89291	4124.686272	855.6530033
1510.411222	395.7543284	999.1007205	3587.354481	2007.40503	3847.100215	2418.498673	4668.264881	821.1646659	1104.430684	1379.515734	5203.095666	1867.305953	3464.63996	1238.394035
1644.560045	375.2687351	1036.504287	1379.664467	1982.703263	3193.797817	1399.732314	4212.241042	594.0082651	989.344847	1120.789243	8288.020726	1735.868748	1999.760933	517.7504473
1553.361098	345.4239639	1157.693649	3633.232057	2109.179658	4320.939766	1504.164352	4290.584327	453.2381102	1974.150291	1203.750177	2234.788372	2087.198133	1844.354619	340.1902675
1650.507291	522.029937	1107.130405	2729.498537	2072.594694	3039.029298	1614.605604	3092.396671	408.5029804	555.9909923	912.0969159	5212.536843	1533.099071	2288.975132	294.005708
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3658.30993	650.8521794	1386.054801	4163.371221	2422.211471	3409.424056	3882.20308	23028.71215	1191.319829	839.3389705	2808.557324	2243.096951	2342.026482	4836.092034	892.4485084
1602.079012	566.7581315	1948.964874	2924.514652	2650.207986	4037.751434	1719.486535	3218.033458	902.9705824	2219.002176	2416.460282	4388.90666	2549.877921	2809.241812	909.3746291
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2581.526821	573.3425506	1780.431617	3385.592713	2691.442232	5592.812998	1362.555008	5151.170895	726.8280348	1085.290908	1243.727536	4049.046096	3055.846479	3278.647988	595.1275871
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1240.573165	329.1499098	491.0415773	4658.186766	1179.751986	2925.677595	4726.163378	1499.957605	292.4783166	989.2385875	1669.004705	2527.656644	812.1416252	2502.612629	734.3262933
929.1183288	171.2301842	980.6819638	2192.913836	1297.846964	9812.657031	2334.957057	2738.710048	225.7125155	3979.155984	1040.028789	8562.482107	1093.538222	2951.774879	540.9317181
1984.609043	325.9526227	1209.004326	1126.838984	2064.065638	2690.68924	1416.674972	4789.06568	474.9337383	1228.868475	578.7690613	11264.77817	2005.376108	1646.918514	382.8363213
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3052.93752	244.3192496	1319.534568	2207.298048	2259.953059	10944.87052	1835.553673	5321.31538	917.2502861	1673.37624	2412.65259	3136.132436	2923.406193	2815.989971	272.7529554
1625.99306	587.3082781	1323.000096	2247.543693	3089.075519	5762.054537	1882.291902	5095.885077	1093.68008	2840.040207	1898.894256	8029.313526	3452.252016	2491.39077	801.0635878
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2161.56619	503.766847	1220.193245	2998.027089	1884.636197	3239.041247	1611.486818	3529.20339	598.2822029	760.8486151	1149.306728	4221.055795	1465.93317	2742.835629	706.0297087
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Surv

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19413.51096	5189.578787	6665.504097	3806.846999	1527.940299	5234.008257	55660.37269	747.7154652	3074.302572	5507.086948	1393.568244	3681.144109	2498.886758	28404.51851	33394.70651
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12999.62255	5229.997926	8671.998163	2380.507463	1567.115071	5846.584952	32912.55701	784.0809541	1982.709382	3845.032503	1212.23731	3528.887712	2774.118196	26732.03103	15873.19026
19599.83458	6131.025595	10250.7882	3184.243844	997.9549173	6248.733098	56885.47737	1072.673593	2491.304891	4246.682002	1006.143265	4065.514802	1510.750213	36846.54263	24074.76678
9763.695046	4392.188528	5335.703494	2576.764644	620.2347263	3541.340211	22857.07125	802.4089328	1819.636005	2866.34792	889.8104307	2698.916135	1695.378454	19247.28409	16334.60284
10981.95245	4417.97975	7492.025016	1921.662419	770.303912	3070.972245	25600.31299	756.9874879	2232.037532	3214.379888	867.6162413	3129.359642	1659.4313	22795.66922	17525.43834
12110.55251	8002.706905	6236.669586	3001.142472	2261.302257	5897.321388	45321.83712	644.0482318	1715.084136	4239.304817	1027.216167	3998.805793	1773.170765	26286.74705	19632.26137
12124.84818	4221.688063	11852.10755	3328.699418	1855.478765	14339.4179	35057.17569	909.8374874	3008.571414	4116.382799	1507.971391	2049.240452	2422.021089	37106.41614	21234.80664
11360.48344	4387.758315	4296.393109	3227.865881	1415.046486	5656.843313	25806.2139	587.188581	2151.539184	3998.899084	1118.666671	3936.503334	3334.830025	17884.182	17266.90975
8129.930815	3246.154459	7856.275577	2794.731054	1264.847439	4015.405797	31175.14949	657.2035247	1923.128347	2982.195666	1050.448257	1875.723502	2045.949989	19092.30108	11585.09754
7661.364267	1933.366235	4545.01289	775.304784	642.6751482	6557.600854	7121.054274	523.3974891	1663.656305	1730.416188	367.6244269	3019.327012	1374.363475	6792.595645	9103.377757
6262.534505	1973.350716	3908.987602	2151.726943	1628.829775	2176.189969	22065.64892	642.154417	1961.119204	2024.315353	1201.746123	1787.83944	1381.141643	14887.78955	19009.80933
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11419.81226	2886.90966	3604.703956	1715.82335	589.9679142	3425.747022	26895.65393	387.4122637	1169.11975	2512.280035	560.4695185	2036.372584	1807.268377	26276.18762	22335.20195
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17390.64812	3251.234072	5770.61665	2375.818789	1286.676964	6145.177813	30087.94772	555.9048962	2040.116998	2978.139046	963.9282957	2762.253649	3294.411152	31978.02437	28468.80724
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14293.4866	3621.79805	6295.928701	2000.631178	956.6076584	7013.136104	30254.82809	1051.970416	1827.78618	2271.819018	1085.744725	1671.828338	1623.153597	37866.96151	28177.70803
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12450.37132	3014.194439	2599.548195	1740.04969	331.3508615	1716.251009	29401.43929	514.4176358	1818.768403	1851.720422	599.5436859	1013.274596	1803.207727	21939.63757	39038.98962
9371.200634	3071.111634	6640.746631	1256.694311	987.6994129	4170.978804	13924.38068	479.8287369	1694.979434	2184.155484	596.1508549	2455.227563	1702.249566	13843.37064	16878.13161
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12421.30928	3369.713165	10142.66393	2378.202749	835.0630756	5418.766965	29660.99345	519.1207197	1513.678811	3367.681382	945.7952839	2880.053308	2097.816607	15276.98118	15545.17662
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13667.94366	5143.135031	5587.654779	2948.578424	1081.180042	7279.530176	39883.18423	856.8429727	2078.233683	3913.435541	1212.043332	3673.519508	2244.40929	30937.7436	19207.82295
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7836.202261	3405.730184	3454.095583	1696.819417	639.8339252	3898.452687	19543.65167	186.4083089	1147.670615	2046.460948	660.9937872	1717.979279	1211.150202	21826.90155	8373.259713
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13052.20753	5832.448399	7408.892856	3755.938332	1361.564779	6195.862417	29605.86456	323.8048602	2135.923803	4677.841466	1457.616985	3715.338946	2971.67702	21910.79554	18296.45994
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5806.963556	73.5058678	711.5776369	3721.234557	1169.968396	2053.059724	4259.256673	1573.229754	2480.823038	1425.197103	1384.36051	1277.164453	3262.843799	287.8979822	3602.808437
4003.800707	235.280092	232.2507346	2941.506043	1024.932589	1526.796133	2571.924439	1447.023055	1876.182021	3336.332291	565.4800494	1902.436452	2697.137878	622.0280543	2042.796678
5475.962396	150.8188096	1183.824355	2437.893087	1851.145937	2063.94508	2249.886078	1747.845383	3074.224503	4625.798833	2669.286329	1370.798359	2988.485043	929.7049909	1881.103098
4437.99631	96.37236997	2495.947036	3809.14226	1133.105441	1284.964933	2726.656649	1404.700302	2120.192139	4025.249998	1559.480169	1118.503567	2512.495827	489.6495161	2278.865839
5740.216163	394.2426564	176.6551794	3416.769689	1607.131266	2594.892238	4101.847091	1570.507631	3253.040498	1404.624109	1534.961162	1679.30137	2476.404008	922.053863	3393.072043
2690.351322	131.5144796	300.3086541	1185.70141	543.6622187	1268.545177	1517.076477	552.9821424	893.6771328	632.7192678	411.112192	994.1251999	1625.808921	179.1496454	1657.91088
7191.793721	238.2854979	297.329692	2456.660222	1131.328935	2096.068893	2944.829184	1380.158039	2297.451769	1697.520582	1326.385647	1659.5636	4786.79717	505.0387322	3216.854221
4763.949631	98.26472861	968.4744887	1256.654702	576.3604274	1338.856927	2128.754169	790.8420947	1323.739277	1654.437883	1192.404688	1683.728331	3096.283804	643.4450018	2551.103531
9874.178724	393.3633535	1383.815434	3464.414989	1791.26618	3923.880724	5238.342839	2142.367355	2991.945507	1707.825468	1675.3161	2325.503461	4035.496221	1224.51953	5191.746078
6098.4588	1140.077415	1455.35022	2493.521275	1230.307006	2776.948342	3459.508656	1365.12063	2252.555191	1700.562402	1674.024287	2596.48916	5036.934205	543.5005928	5470.03624
6814.909227	347.5499022	3781.175442	2519.736791	1364.028683	2830.647396	3937.154164	1289.703252	2159.624844	1896.868743	1337.857756	2311.416217	4967.241826	574.7135431	5003.881122
8051.19321	879.2238708	1116.685964	3128.972495	1414.537124	2930.405055	4931.432607	1780.965699	2475.951738	1273.28812	1474.926191	1413.51358	6594.690802	305.0159645	4932.45615
5281.998959	167.4317852	3608.734137	2312.45409	1188.870978	2006.022332	2976.91608	1201.507339	2123.961703	1968.113249	1302.598228	1582.704234	2844.234288	542.3104992	3665.597763
5121.701542	80.92288437	1512.950636	3104.775475	1250.719517	3537.047085	3972.391716	1653.285258	1975.952455	1702.453593	1523.194039	1773.133074	4868.689486	94.23930838	6626.457455
8542.810644	60.12475581	99.86823847	4443.117548	1363.507174	1422.612866	4477.765713	1582.605861	2225.635029	4832.399865	1812.914247	1615.215898	3593.218458	1124.027215	3737.925497
10178.80689	169.5414762	1327.899388	2448.347405	1596.427813	4437.563856	5726.500297	2074.513715	2375.686773	1124.660227	1372.1276	3258.144891	7164.970213	827.6993809	5416.902818
5261.298823	362.1181951	228.4130154	3722.575046	1313.653391	2229.533872	4022.297491	1270.199208	1896.385133	1779.3931	1456.272249	1355.993365	4101.406389	430.0849948	2428.977432
4710.317721	1756.134009	393.244732	2880.92168	1078.46021	2746.248827	3314.029577	1349.960683	2262.503937	1537.425295	978.2636072	1702.264867	2779.647695	962.1028648	2889.540743
4892.164286	372.9652176	46.28685278	1826.550421	510.0455123	3397.63302	2832.399337	745.9304352	1458.925994	882.1205981	720.1166134	598.168559	3686.92585	365.8441633	4081.254231
3660.280177	1873.460029	40.77170902	4666.322097	1319.984079	1687.948753	2575.752717	1386.238107	3120.055032	2521.730203	1114.086949	909.209111	1569.710797	858.2444748	1869.382858
1730.650438	127.2537087	481.1011181	3851.27192	918.6896777	628.0586269	1300.450804	458.1133514	1119.832637	1362.846171	895.701911	861.2202609	942.4984361	127.2537087	1870.219022
3868.222957	187.8064527	157.3247771	1838.733333	1013.761533	1784.65294	2320.540463	1093.407201	1548.665775	1592.913368	1485.735864	1759.087664	2486.714758	387.4122637	2936.073653
1713.62124	77.06479029	399.2384275	789.9141004	364.9874095	634.7141755	810.2506423	316.8219156	492.3583824	405.6604933	202.2950745	315.7515713	850.9237261	451.6852986	865.9085464
6127.906981	507.3306819	2301.338327	3351.620782	1232.705614	2988.933315	3711.069967	1581.36053	2108.120897	2488.079195	2034.719863	2196.63391	4628.582902	616.3528072	4557.340721
3491.950052	557.6800026	902.0126732	2083.857661	889.1126019	1583.731822	2687.184069	961.5514635	2101.719298	1809.979225	693.6269071	1483.508192	3029.532114	299.6785779	2272.397163
5925.404654	366.5505981	84.43577462	2326.453931	747.0082649	1635.073942	2388.042379	1863.547214	2152.615572	1478.122737	863.2316253	2302.613242	5080.053546	154.9644805	3389.35133
5290.386574	598.2994208	806.1831179	2488.519964	950.1806056	1845.601603	2940.793763	955.2509397	2103.174574	1254.40065	665.2278306	1604.253701	3403.208231	492.8364721	2527.054503
2668.832375	753.503147	456.7323545	2371.009204	1047.116803	1867.972187	2079.500305	734.5603305	1769.04859	1104.997632	738.7698453	1487.011099	2847.736754	617.7462951	2402.580565
2951.036402	286.4995018	1051.718618	3013.279105	1153.320678	1216.478715	2649.891558	1048.057283	1823.345072	2323.117366	1975.290495	1194.510702	2511.676144	379.8635567	2378.037398
4025.576156	893.187692	90.35735954	2013.826668	750.9008155	2003.440765	2823.927133	1017.818533	2215.313194	1274.350347	665.7364076	1193.3403	3239.363269	155.7885509	2514.427212
4540.529933	2037.403552	1150.924234	1927.128951	888.6205717	1692.661595	2553.44586	1307.235805	2316.83725	1877.8801	1128.441063	1421.792915	3124.090154	747.297782	2049.180451
6746.537573	269.2113322	326.101274	2052.101475	1175.386835	2065.308069	3364.633706	946.8111757	2499.093876	1378.565199	1366.374497	1780.85836	3877.659075	1094.11549	4297.222396
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4582.864916	161.361007	2188.98945	1929.962571	632.7050012	1995.780876	2273.916296	1680.489961	1749.493023	2059.476011	745.2330719	1727.199726	3149.724393	292.997618	1825.927185
4187.789126	130.9003683	339.5228303	1703.750106	745.5185038	1298.777092	2254.963376	1226.168294	1643.413218	1361.159298	1283.437205	1443.994688	2767.315599	510.3069045	2718.22796
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5663.225638	1511.652199	75.1545146	1473.59928	670.6826936	2385.918008	3390.515064	733.4700096	1958.773995	827.6509836	486.1260375	503.249851	3219.276929	139.8444765	2814.964667
7804.021935	960.7027269	48.8140845	3342.206892	1493.503266	3438.796464	5152.482409	1171.538028	1862.205394	1283.706563	1187.116991	1733.419299	4754.69955	1339.79083	4027.68127
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7172.956165	512.27994	2821.687686	2582.139779	1332.550046	3883.579707	4056.759363	1487.063632	2162.153188	2088.525909	1348.105105	2673.396124	4795.106159	933.3035345	4674.813704
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6171.502926	48.87289596	505.3665412	1109.518723	1003.45414	1880.046721	2026.665409	988.8962566	2252.31261	1000.334594	1305.010307	682.1408458	2161.84576	148.6983856	4557.657511
2331.458244	219.0961603	155.2340508	3272.687488	889.157063	2188.996615	1936.495659	1152.465453	1477.670964	1080.743391	996.2489081	1318.506938	1993.48031	530.5467558	3114.505955
6540.183779	1961.191173	42.11809237	3070.300938	2028.14814	2527.085542	3717.191639	1262.46282	2081.065743	1874.795086	1794.878706	1468.733477	5914.8921	373.6630759	3953.700927
5208.05957	120.033373	1861.013286	2720.095113	970.1870971	2169.528815	3140.707924	1442.384498	2436.379868	1964.182467	1549.521724	1826.292889	3893.644536	633.8952506	4085.102726
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1981.451724	195.2075826	1457.423602	3275.886471	1225.259244	1901.852516	2550.965108	1343.710447	2073.369858	1607.145923	1002.570982	1904.695345	3186.811166	319.3444434	4006.493491
7196.901538	297.7011831	493.221102	1395.167261	1099.431102	2256.830421	2864.022933	923.561426	1587.739643	1811.752414	1220.280097	2884.655688	6192.774115	1035.567812	2969.151733
2891.612851	54.70323215	1464.952557	2476.962352	759.2808622	1428.848424	1989.009521	835.8653872	1387.273967	2232.985936	1066.713027	993.4106958	1832.558277	439.8139865	1951.811323
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4233.861599	124.0292243	1179.765981	2423.034925	982.3114561	1749.308179	2063.846292	1266.090321	1862.422831	1946.762704	1697.712022	1591.543006	2495.467992	523.8994433	2674.070075
5868.016281	2050.686965	47.02089906	1746.490537	639.1003832	1668.762112	3081.308304	785.9207415	2290.589511	617.9889591	412.6323795	791.6784026	3579.34599	190.9624268	2668.675924
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8720.146165	134.2529119	345.0719375	2439.627133	1038.362365	2837.141614	4127.228189	1090.804909	1920.44595	2892.73071	1353.017627	1945.618371	3517.845831	1482.026285	2423.894369
2987.571005	73.55571108	32.24359938	2253.021507	725.480986	1436.855397	2730.629822	459.4712911	1111.396566	555.1944768	579.3771763	1102.328054	2627.853349	62.47197379	2951.296956
3505.948038	197.0713869	720.9928787	1933.222239	591.2141606	1306.439096	1890.92399	994.0088488	1416.030014	1955.332687	1392.958242	1304.516449	2137.984216	539.3026733	2449.45314
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1682.425195	68.00101835	92.00137777	3189.647767	847.2126875	564.8084583	1246.418666	995.2149039	1339.220056	1076.016114	1261.618893	537.608051	967.2144846	256.8038458	2777.641597
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1933.500764	150.4982769	59.73977405	1205.135057	676.6678253	1137.353391	897.2454525	635.3095202	757.0867519	845.5475711	494.0019777	659.4351981	1076.464775	204.4938419	1044.297204
6233.038181	663.5274599	150.7031322	2501.238317	1125.394613	2178.148149	3524.718582	1108.04749	1939.625206	1533.052007	1181.772764	1266.339989	3944.302123	581.128625	3234.154269
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7066.532249	135.1898193	3042.916611	2608.705242	1225.873785	2803.470236	3402.659011	1170.881316	2451.74757	3204.456988	2010.662143	2200.844431	4127.872194	531.5938657	2229.486342
1880.171591	62.60282766	206.5893313	1043.380461	461.1741638	959.9100241	1300.052054	480.9983925	870.1793045	493.5189581	265.0186371	670.8936364	1407.520242	299.4501923	1156.065551
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5111.762636	131.31522	671.4020118	2625.245406	954.1533323	1881.831822	2781.976475	1239.02264	1312.093206	2159.288174	1161.716099	2466.396349	4082.42075	622.6883012	1936.899495
4385.898169	51.82049394	3036.680945	3549.232739	1285.14825	1581.938351	2838.820877	1345.448461	2372.436432	2257.489154	1627.16351	1105.189807	2621.174803	316.5761084	2693.723494
5546.289152	120.5019562	1612.380157	1660.367662	1274.334846	1868.313515	2964.5614	945.8870367	1996.280195	2259.678276	1300.994571	1507.874036	3640.652022	621.7047828	2177.566323
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Surv

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724.4325618	269.5330002	1148.2707	1130.235034	785.553428	1442.853235	7111.06209	7471.775399	1579.122707	7428.690198	1193.359863	10823.40323	1567.09893	8706.2165	3441.806155
1062.155473	45.57908544	552.6464109	197.7806743	251.4988821	726.009718	8292.1379	6239.451231	357.3074733	4147.696775	580.3194271	11315.82187	883.0947803	6381.885873	1594.454078
461.155346	556.7100574	751.9740327	1086.415522	482.9667475	1256.752182	6651.43882	5212.924959	831.9491716	7729.545237	796.6354739	5748.862253	1090.570075	5485.048159	1766.723522
781.5614893	122.4757712	1734.381472	1675.219447	1083.599196	1548.591955	6173.609215	7253.05669	420.3617572	6149.736819	1256.933551	10569.24389	1179.088781	11044.61595	3935.831564
658.5797541	71.47377176	1087.422385	2478.097772	507.4637795	2374.97133	9436.57998	9379.400963	1099.675031	10367.78112	1331.454262	7982.599252	1202.801473	16065.26178	2920.214103
192.7915836	230.5548835	219.623402	398.5021909	147.0781154	401.4835041	1118.986202	1454.880817	155.0282838	1394.260783	246.4552203	1809.657082	228.5673414	2340.330822	724.4590952
1077.34633	15.51533869	1423.532325	4545.024527	1114.19526	2570.697679	5298.488162	13134.70391	1331.410001	7179.722978	2813.124846	6160.559168	1507.896979	9906.543752	3431.798976
354.1148318	380.5907071	795.3794197	1231.1282	418.0981971	1056.828688	4162.228226	4702.777346	1022.630683	4383.963681	839.5058785	4621.143397	1187.001742	4443.5344	2055.189818
748.2695936	332.5642638	786.1566616	927.1807482	327.302171	1617.567321	4965.310749	6098.765534	845.0921008	3921.311541	1089.253206	9790.64983	1513.377884	10623.11291	2761.546292
894.5671301	6.458968449	456.1646467	371.3906858	248.6702853	1441.964706	7177.528689	5705.691253	334.2516172	3851.159938	674.9622029	10632.26944	800.1047166	8953.745012	3688.070984
1439.489911	96.9869089	1285.331772	2688.068749	704.4312331	2345.041366	13461.78296	10944.20698	754.4560598	12018.20939	1409.883381	12752.24715	1698.802278	13358.67056	4086.722067
798.7405697	155.5070136	938.0910105	1110.764383	843.171145	1671.195503	10212.97361	7125.048622	841.1515734	8359.006873	948.1888685	12234.56478	1734.812009	9534.397547	3466.59466
804.7113199	91.93749354	1609.42264	1040.236584	2285.008267	2207.532851	12526.22524	11163.69093	2342.856577	7771.300718	1168.329272	16948.52198	2043.284969	10611.03296	2843.864267
863.4574966	4.867291413	695.0492137	1288.858766	1915.7659	1743.463784	9455.200298	8014.48204	1619.834582	7234.741956	1042.573821	14714.7954	1418.328718	14246.56196	3103.385005
754.0160095	312.3780611	1885.040024	1590.97378	540.7371954	2932.045111	12903.36825	12331.39325	668.919917	11631.23553	1272.132725	16230.73319	1504.800522	16699.30028	4152.473881
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845.5972093	43.22878501	1585.758358	1882.033689	1376.994957	2612.705592	7969.911852	12214.76767	1935.80608	9104.403868	1205.134177	12942.27649	1866.21828	12730.35001	2738.174504
600.9266096	3.779412639	551.7942453	1050.676714	747.3788494	1898.209998	5994.148445	4525.846635	1453.18416	6501.534592	898.5553549	6366.42059	893.8310891	6398.545598	1513.654762
1572.369768	579.750397	1506.267387	2477.213846	1186.591934	2149.952874	11662.19397	12020.88066	1037.048841	11538.65837	1925.638234	13713.53509	2445.788123	14477.50524	4537.224135
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985.4345571	30.57190974	836.6512631	1998.383833	1058.80714	3092.858202	9860.459953	9138.962884	1302.363355	11210.7193	1651.902189	11841.5197	2013.669788	19028.97568	4295.353318
1304.73223	81.08505385	2768.47541	2913.796675	1048.840437	2250.373508	6909.07842	14932.28654	1402.666126	10635.83174	1637.496867	7544.069166	2197.720875	9273.181613	2807.438358
618.3864563	28.96945561	815.6015964	934.8220484	748.7490066	1903.070392	7551.000026	8689.722473	855.7131503	7514.231101	1186.63347	10234.0173	1525.353259	15254.6468	3832.881819
1288.549861	151.9109787	1232.525954	1894.03901	698.1440721	2194.628819	9166.373095	8053.436634	615.1855944	7539.525026	1020.281537	9627.492945	1413.526269	14614.69805	3164.273364
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344.3642447	643.5659656	1352.617591	1343.585086	669.5344168	2081.992352	7106.323135	8918.469407	1175.354684	8401.358508	959.7036329	8248.93499	1842.630975	10581.57935	2364.258126
516.5683725	9646.414912	654.5102031	3711.110905	439.511212	1667.669166	3444.740473	5495.792796	643.0943275	3304.895997	732.5186866	4822.256133	993.1811803	4798.473059	4061.197757
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624.906409	161.8674372	993.7679627	1230.192522	875.0651755	2051.301886	9528.596468	6363.842818	999.6540514	8614.290702	1441.110698	11347.39785	1367.53459	11678.98085	3036.240715
955.0366188	51.91481107	671.9539697	1258.689287	885.4903624	2419.426101	6436.457048	5907.51369	1263.586911	7425.777033	1213.631149	13009.06804	1474.18473	8895.064139	1994.312365
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508.9412965	254.4706482	866.575721	1600.512301	639.6154131	1990.569627	5749.661133	7236.202024	2695.030842	7208.691684	976.6170824	5823.349545	1460.995575	6300.850452	1768.52188
685.9785311	147.6987268	870.8754558	1010.91573	369.7938493	1261.456533	6306.188602	5914.51346	509.8341236	4352.18915	1028.420764	9441.777869	960.5887565	8042.469191	2949.598277
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573.856349	49.45261176	1054.989051	1336.25078	583.1287137	2458.20691	8100.955964	8514.091325	800.5141529	8571.786038	1134.319282	10718.8536	1513.455972	10071.8486	2620.988423
396.8135489	47.21578936	575.6307937	1066.875921	539.4655082	1666.616905	5279.127087	4774.822273	517.3645005	4517.64691	710.246023	6577.058999	905.136728	8284.864146	1989.090701
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Surv

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3781.648233	893.4714599	1584.770546	3737.859747	88.50864306	6843.115613	9807.689321	1027.631929	1053.718687	103986.4756	6907.400838	283.2276578	5335.673671	5430.704004	1458.063436
2085.960216	401.3800999	868.643297	970.0019081	41.55703054	1201.099541	4032.045549	151.0243305	464.2224388	23243.55669	3932.71411	66.89668331	1741.340938	1816.346311	1253.806019
1207.68535	1043.123608	315.6348159	996.3628945	25.17884571	1476.559452	11542.70227	95.3199159	1809.279913	50076.2279	2062.866859	62.04786979	2769.673028	1413.612338	634.8666097
7344.460797	1340.396269	3109.442157	3633.127258	228.6791271	4914.126351	11247.8452	952.3347199	634.5598289	89690.72552	21836.38176	276.1968678	7413.757502	8452.218127	12111.08416
6962.893931	2043.165787	2034.204533	3192.197618	218.0571673	7106.273986	22572.40175	1225.700333	773.6548812	112758.4565	17430.63366	217.0614725	2986.088789	8237.383311	2821.799142
2598.759163	1989.463423	598.4638155	2978.779172	92.97401659	5218.279513	14390.21138	467.578064	4517.815078	84485.39861	5367.218472	161.5762036	3533.915291	4090.85673	1279.972384
5047.309471	940.3345943	2033.15588	3171.723172	134.188288	4048.013356	19536.59485	1408.977025	837.6602224	86702.91591	13338.51915	276.5091996	8967.234007	6834.453489	4086.643318
3850.900472	1536.623178	1816.898975	3737.900389	102.32291	6770.217581	22919.44207	1283.040314	7741.840344	157584.3994	12318.78859	320.3151964	7158.154875	7705.360002	3490.545876
7179.585854	1653.842666	2904.974119	3661.106371	210.7941508	6978.230247	11660.79683	1292.03181	15106.91414	76552.88475	13269.54423	372.2981271	8701.288903	8756.87144	3230.079525
4262.428932	932.8446958	1932.822146	3249.425723	61.12086621	5860.589286	15347.34931	1132.238997	1848.655707	78632.49537	11510.76248	290.5746099	8971.741574	7222.282027	4448.797475
1312.840443	1842.697311	405.3282955	2549.987048	37.43996304	2908.922346	20582.21272	123.7146605	952.2773207	82694.29749	2310.696849	120.4590115	2116.171824	2449.875842	1044.249404
3838.806664	1191.317977	1896.553293	2626.715924	142.2934288	3424.390036	8320.530354	816.3695991	518.2804452	37575.8516	9583.514365	274.200476	6523.686325	5855.841984	4395.516722
8794.383133	1209.188758	3086.804607	2912.432323	309.3032189	6357.322871	13471.29691	1318.171436	1404.319648	76546.31909	29482.40917	229.3825885	6483.950364	6044.905862	7063.115451
7191.282493	1651.044128	3649.246575	3527.741163	204.2107765	4227.163073	6914.576891	1150.727725	705.5482327	59627.50462	23304.53381	402.2952296	9849.085749	7625.230393	3175.477574
1132.898997	247.4489914	632.0383876	665.8266033	34.78198674	1023.584181	3120.441096	199.747981	512.7858617	20400.13211	2762.683518	39.75084199	2366.168869	1468.793611	778.1227319
12933.97421	1586.443381	4991.090514	4579.934039	426.6718139	4289.991147	12844.76102	991.0422587	627.4015082	55526.48804	28942.89461	403.3988059	6331.227893	7384.331507	16065.1635
3385.602551	635.4210066	1675.702273	1915.088312	99.28453228	2405.995166	7149.589486	708.2296636	915.6240199	28820.0934	9308.476482	198.5690646	4744.697482	3422.006879	2520.723958
5642.015881	901.9227028	1800.68815	2306.901476	121.028134	3503.501374	11057.76177	670.3906204	1289.212732	40073.99379	8556.162864	193.6450144	3750.819735	4057.073535	3224.610457
2333.302352	1237.699829	856.6206905	2106.431085	42.79066597	3274.697003	17770.23694	685.4580266	1722.122463	80163.06479	6487.226436	114.64669	4757.837633	3913.327509	2161.332317
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5246.84703	893.6604352	2114.49147	3841.225193	92.90029383	5865.845726	16449.41072	1140.048171	5249.876387	73806.25409	13636.14748	324.1412426	8674.060043	8092.423421	3533.240523
6555.453191	1548.475313	1961.677531	4679.515121	169.4129095	6748.625228	20046.50561	1208.616488	2254.0181	105359.3346	13727.61069	457.6214566	7166.992474	9473.693857	5588.560001
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3443.989767	789.8972415	2018.206349	2451.89395	49.13236431	3693.431001	5824.074877	942.9634534	1590.187868	57386.60151	8534.858592	235.2684368	5637.938804	5463.14097	1165.948799
8836.046237	2159.705684	3638.881931	6021.818609	782.3921245	11961.28015	16225.4256	2087.101429	856.0800254	91669.91604	31192.73865	511.4807241	13575.9121	7413.219562	8611.731598
7433.856741	1255.783596	4373.481333	3664.382903	268.5657226	6871.248706	10903.98064	1584.856221	4643.10858	59623.71347	21788.85384	442.6557563	10324.38821	8296.876238	5146.271238
7409.512675	1331.576734	2882.989249	3971.699786	295.2080495	8095.190946	10302.97029	1931.414366	1781.716667	67484.35074	25669.49142	372.6739915	8573.59548	9432.001865	2975.11091
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3985.119998	534.9692023	1797.176072	2816.376965	39.1657985	1525.685878	10038.01613	711.2152956	351.6020548	9315.229122	14535.85204	221.6428143	10272.12079	4312.688494	14469.09215
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1723.254338	260.0936672	866.9787607	834.8685614	63.15031426	971.872633	4494.375756	225.8426493	230.1240265	13594.44308	5664.262086	74.92410167	1032.882259	1468.512393	2210.260999
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4024.822225	1066.73666	2071.949903	2117.596309	86.33124595	3356.003147	20466.45917	896.0587941	1070.705912	51713.40864	10456.9962	227.2397163	12300.71408	4700.587495	4055.583933
4873.434239	1148.326535	1547.658081	3472.793742	160.9246528	2639.362978	11426.64371	1673.815062	915.8798141	91481.69167	17977.86646	341.7165467	13653.76144	7807.825747	6071.428876
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2709.73884	801.1689666	1381.354344	1345.765227	242.5025901	4454.433242	9411.252396	444.4501395	443.6224856	84937.98058	7474.542291	84.42069689	5240.704439	3375.172568	4987.442348
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5639.515515	947.1242085	2554.48438	1828.42132	193.5513165	4032.155344	12926.67346	719.1856023	6115.042608	76081.38728	12160.32814	180.7788946	5051.984108	4881.030153	4228.654143
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3813.252424	1547.544224	1443.225087	3139.919812	126.7348194	4683.153327	15072.8221	289.6795873	4259.841788	113946.6726	8076.542778	146.5640769	4240.01253	4649.529804	4231.391114
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7668.08392	1356.455478	3058.190531	3355.172072	352.4729006	4519.463023	8621.713225	1092.357707	617.5982894	47102.91646	22655.88933	499.422244	11957.36056	7833.530383	7727.685751
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3883.446751	823.0147302	2100.412443	2359.637442	119.2632124	1800.775943	13747.79576	915.6654903	256.2680597	8013.305098	14004.06382	390.3159679	21316.57434	5091.849217	3201.379454
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7095.013256	1452.879651	3995.6711	4484.669456	230.8878834	7355.140217	12270.32987	1711.998367	5066.426263	93465.23005	18029.41979	322.6380904	10321.39416	9270.803878	3881.739525

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952,5377478	2797,875984	5028,791074	2052,789445	536,5491989	2485,069974	811,3405902	457,2615642	3,258395945	2605,630624	952,5377478	4762,688739	2854,354847	1028,566987	478,9842039
1069,558352	4668,342846	9065,305214	3517,968984	501,8543389	4043,768659	1218,218982	649,5172457	11,97266812	3807,308463	2004,424188	9854,503588	7586,680701	2444,419742	1976,487963
2551,164844	6456,078352	10174,07259	3851,669836	1480,627199	6202,32128	2407,293648	1239,331412	7,929908486	6642,997623	2773,202282	10758,62013	7945,768303	3128,91532	2761,873841
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1347,860215	4728,465092	10272,31417	2626,184178	852,5334926	5819,136432	1786,986405	943,0258745	2,857654165	2908,139389	2308,032014	7826,162207	8221,471033	3089,124153	2511,878011
2049,601946	4421,024542	11911,64073	3326,192829	1140,806091	4736,430162	1459,419226	972,9461506	10,69171594	6256,792169	2529,659992	11396,30002	6109,246489	2506,138217	1163,258694
242,4900217	2715,205173	800,9001422	919,5836388	413,2576427	557,5562824	460,2187384	147,7139921	0	997,2829063	329,5815084	2224,248263	549,8717394	212,6056881	274,9358697
759,9383124	4871,593187	7401,842341	3941,100538	662,7871077	4313,513489	916,4596978	609,893674	15,11240962	3302,061502	1563,054938	6054,678969	4801,428428	1551,180902	1586,80301
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1348,965645	5115,899123	5452,86113	3526,64548	1434,463468	4514,620319	1763,043335	1342,818743	5,029283682	4407,887743	1466,874407	7118,671648	7647,864053	2430,261637	1340,024697
1209,667443	7534,436888	6248,474149	3727,412203	851,4112715	4884,004657	1528,117373	1314,711691	7,740102468	4199,558453	1382,161155	6835,616208	6378,950162	1750,368887	1612,152771
1172,088417	11416,5249	11391,2343	4809,57412	1061,333038	3935,740345	1320,343648	1544,470674	6,104627169	6323,521658	2826,442379	8165,374884	4683,121128	1655,226052	2005,80607
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1905,042797	9156,019644	8468,825912	2668,044434	1099,706876	5779,122077	1922,764125	762,0171188	5,907109448	4660,709355	1612,640879	11520,83246	7155,478578	3526,54434	2174,800795
1876,06075	5916,391813	17690,88587	5039,889323	1479,907531	5869,976041	2163,190877	889,4557297	6,476619391	6461,507279	3082,87083	15347,42908	8829,791103	3459,594191	2845,394786
1622,795451	5529,01221	13582,25451	4387,834319	1283,958318	6116,116802	2014,908863	1390,510876	19,17946036	6339,877173	2226,948452	11332,93002	7523,676087	2865,198272	1963,763635
541,2951824	2834,401052	7370,015535	1433,907167	210,9810147	2296,924531	470,6499558	392,3674073	0	2678,79062	1610,520234	4250,16958	4492,654547	2122,220794	540,3405172
1849,277912	5749,001645	18842,72746	4829,077562	964,9773128	7901,07917	1678,49474	791,0508916	3,143248576	6101,045486	3056,285365	11616,39899	8999,120673	3556,061889	2162,55502
969,8167877	4017,539948	15230,03335	2831,254713	605,5394889	6084,003054	997,4713471	609,3539109	1,907210989	3661,845098	1944,401603	7430,494012	5860,859368	2710,146815	901,1571921
1344,255508	3358,673485	18836,28204	3180,815117	441,206669	6023,601071	754,669759	947,2677704	22,60078705	5321,011387	1905,344613	7865,073895	7587,968592	3210,294404	1613,499667
945,6943168	5246,660251	10130,58843	2977,425714	1278,198711	4302,045494	1679,794928	1276,039592	21,59119445	5548,936973	1663,601532	9323,077762	7495,383152	1932,411903	979,1606682
1450,32173	5933,321899	12414,38266	4152,91272	1132,61256	4269,474851	2322,990424	1080,004873	13,40980262	4706,840721	2529,295079	13901,83923	10389,50246	4285,979223	1991,871451
1407,046262	6127,428734	15961,47934	4273,640511	794,2079306	3289,47179	1547,369057	654,839712	4,772884199	6619,035807	2716,725686	10699,8518	9084,707784	3943,356925	2657,541922
324,0710347	1401,238962	3208,487375	472,2967068	151,9082975	1556,829885	444,6770163	273,4349355	3,682625394	1077,167928	490,7098338	2563,107274	2604,53681	613,1571281	545,9492147
1250,595486	7248,577412	11795,82794	3292,591366	1158,146917	6805,637013	1751,443232	822,8938618	1,015918348	3646,130951	2300,03914	5915,69254	6283,454982	2583,480359	2016,597921
432,0925373	1042,398356	3824,118515	692,9410275	198,12538	974,6972212	407,2024142	578,4464612	0	2454,166139	377,3342664	2751,852012	1295,282007	471,9167343	423,132093
1736,890158	7771,617356	10581,13902	9367,509215	1528,003789	5323,469112	2417,85972	1110,231051	7,311022913	9014,491251	2901,431665	11953,52246	8484,964306	3468,558156	3415,292132
726,1361459	2686,143738	3768,814598	908,1368509	694,4026897	2843,877682	1108,804295	882,9367533	4,666684742	1467,205683	388,2681706	2274,542143	4603,21783	775,6030042	1129,337708
1102,165524	8791,23743	5669,211505	1684,459228	838,5029342	3667,052832	1001,545171	1122,662262	1,863339854	3338,173348	1127,320612	6155,543207	5468,902471	2031,040441	1771,104531
303,0622471	1652,145361	2264,351372	1008,51818	242,2470805	1118,999066	430,7740971	410,5023749	15,20379166	1113,931136	553,4180165	2514,707141	3373,214577	970,0019081	635,5184915
477,498824	1256,244552	2310,159094	288,6574812	153,7708077	2486,411014	562,9270505	624,0756758	0	772,4510166	270,6725914	1159,126147	3163,542115	513,4686036	656,4484774
1238,431117	7244,475551	10078,71079	4228,088969	846,4097562	3721,233069	1182,0038	1565,115584	20,78901156	7715,693146	2551,108704	11901,21414	8417,569774	3865,766196	1731,427677
2109,87734	5803,905152	10529,4728	2146,718049	594,4298122	6231,058233	2667,466444	1772,336794	11,94833793	4620,024001	2154,683607	9879,284082	10850,08654	3232,025411	2415,555652
840,3767907	1493,902888	4962,826633	1084,997747	537,0829114	2082,437439	919,810902	1277,264403	3,610641421	1449,67253	425,1530273	2299,075925	4376,097402	1371,14108	1270,94578
1069,439993	5643,024144	9192,914309	3290,662791	712,6211358	6498,982769	1635,673905	806,1463062	4,066311759	4103,925143	1591,961054	7498,278884	6534,562997	1908,116793	2007,741431
661,0949747	3292,128407	5669,578976	1573,10352	827,480924	3418,474957	1722,583945	1245,670208	11,56693765	3672,947585	844,3864482	6617,178098	6755,98135	2191,489802	1386,252989
1687,401934	4038,648134	9054,709942	1666,427391	1509,118324	4135,131029	3045,503552	897,7104135	3,146181356	5016,061808	1211,279822	12733,64467	8669,82709	2899,730483	1905,537175
1584,132614	7920,663072	7899,621462	1680,32283	584,1551639	5625,123654	1265,502525	1146,266737	17,03368403	4625,146204	1287,546116	8833,468139	6550,95448	2314,577065	1412,793793
442,7682585	1373,883861	4516,399019	564,0411823	501,3699398	1431,67163	1301,445672	905,884323	4,0695612	971,8112145	199,4084988	1035,296369	3065,193496	431,3734872	772,4027157
800,7900266	4334,23707	8713,135581	2393,022336	416,4939049	3692,358683	854,7992112	974,2426004	6,231829001	4928,338101	1383,466038	7504,160755	5285,629631	1456,17071	1148,733812
1773,822822	5890,254252	10812,11957	3331,75615	1085,675057	5356,758096	2390,3534	1006,792357	1,037930265	5111,806554	2436,022331	13541,87616	8397,893772	3467,725014	1462,443743
1782,760078	4871,448072	17197,61054	4702,974182	589,1480901	6603,155457	2416,834539	652,4534308	8,168431058	4848,984887	3473,625308	11597,12999	7286,240504	3447,077907	2172,802662
292,1686886	1503,575598	1933,878463	339,869699	150,0594285	1034,515663	371,6703726	208,6919204	3,975084199	882,4686921	389,5582515	2427,782674	2113,751023	778,1227319	273,2870387
1301,349032	5817,282299	12894,21616	5205,39613	1588,382798	7212,693073	1969,478305	1715,414634	0,969708668	10579,52157	3678,104978	18866,65184	14040,4118	5028,909152	2179,905086
1091,026694	4173,25984	6895,862348	3283,008534	432,4392962	4364,106775	601,223001	550,4775734	4,412645879	2888,076728	1483,752177	5760,709195	4552,747386	2489,835437	1692,249695
570,4108576	4775,875409	7117,506697	1716,494666	588,301973	3167,779855	1210,28134	807,2050328	2,104837113	3231,977387	1569,156068	5719,894854	5797,773827	2053,268604	1130,29753
1102,868863	1924,772598	6205,453937	594,2250973	364,1243463	3010,686668	2374,478276	653,1631844	1,614742112	2163,75443	580,4997893	3009,071926	5150,219967	1172,302773	2246,106278
2108,189125	5538,462956	11299,48534	2781,992913	1216,930478	5000,44084	2302,162943	964,7645149	5,104574153	7990,700379	2341,978621	14276,47299	14003,88873	4329,699796	1591,606221
1288,486684	5760,828003	8575,101034	1735,821794	687,6641315	4416,8031	1435,915411	968,3845846	12,11742963	4034,094281	1521,747204	8458,975667	7101,823549	1812,565515	1814,585087
1463,768858	8520,229739	7643,208031	3675,433731	1548,475313	5304,483476	1828,419815	1513,353124	5,165027727	5028,670995	1508,188096	7573,996659	6232,122456	1810,858721	2556,688725
1061,069528	8655,991048	10641,84594	2063,731559	1418,328718	6269,07134	1978,06723	699,9165051	1,946916565	4587,908886	1736,649576	10542,5532	8068,995704	3719,584098	1984,881438
2639,056033	4699,67407	10424,80991	2896,498642	1177,34214	5228,562443	2272,819686	1343,225663	8,617325822	5913,639846	2717,689131	11081,88101	8418,050163	2245,890542	1133,178346
550,9110483	3228,835805	3591,277285	1178,452581	420,4321158	2141,511368	689,6743574	401,7922683	3,10664125	2946,131452	1164,990469	7062,431107	4390,719633	1507,756553	829,4732136
998,4794978	8657,354969	8407,471505	4650,784651	1167,177195	5500,599303	1747,075531	955,2507127	10,5436061	6237,597369	3003,873378	13043,49511	7499,66702	2807,762305	2491,454122
809,7391579	5579,357908	6768,928036	2219,460072	827,6913679	5508,493921	895,7207954	547,0699795	0,94485316	2741,019016	1756,482024	5699,35426	4987,87983	3075,497035	892,886236
1922,387298	7950,70778	13433,95453	6200,620134	1328,549508	5841,933439	1862,78679	1512,76926	22,75655764	9170,892728	4278,232836	18844,59702	10396,4959	3857,778342	2540,065291
1850,23737	6942,370854	12086,51904	5393,606469	777,0360038	5069,841468	1198,461268	1054,093923	10,61524595	5479,589961	2990,314785	13912,34135	11863,59888	4529,525448	2307,75447
1730,421652	5996,282651	12457,36095	4117,210137	1365,07552	4974,569685	1844,526891	1001,823062	18,84306699	6573,089868	2501,940561	15950,65621	9613,104675	5316,885402	1916,758648
1067,555876	7136,145316	10744,13617	5263,060702	1509,72667	8101,346842	1846,472483	1308,088599	2,04708701	8882,310536	2545,552697	11300,94384	9072,689628	5439,110185	2843,403857
1461,605773	4879,741463	11790,77798	3326,522072	958,2573869	4674,400594	1783,832982	629,7119971	10,53030096	4814,453597	1923,885985	9952,187433	7850,339362	3612,946258	1466,870923
1550,851227	6386,761823	9743,525014	5554,997493	902,4438117	3826,935392	1932,930162	848,1537754	5,121701542	6848,739302	2617,189488	15833,22815	11856,73907	6470,757729	2552,656049
1079,188414	7392,287774	22715,948	4273,952981	1541,843314	13831,75103	2883,950152	1659,035635	8,152509263	7929,334322	3196,802695	15055,64648	11356,4454	4221,980734	3062,286292
1683,831183	8875,127712	11778,39386	6996,481789	950,9065406	3913,143638	1461,637075	1689,096446	1,053052647	10582,12605	3801,520057	17850,29543	7020,702	6290,936516	2025,020241
2147,082345	4613,942911	14394,47681	3633,438259	1208,917667	8441,253681	1533,152728	832,3147439	4,456839325	6517,013303	3266,863225	8814,513974	6232,889796	2202,792836	1817,276235
1287,472479	5820,022033	11547,38914	3562,90501	1157,109157	4144,691737	1774,449517	1012,739858	9,696445446	5130,497024	2154,765655	10252,37498	11354,53762	3588,762198	1846,634166
891,021916	3072,734919	16151,44122	2742,496027	373,8553494	6295,011978	447,7362875	954,2212727	1,780263568	5879,320435	1776,703041	8459,812477	5370,165054	3725,201517	1574,643126
1346,48569	3578,736759	8401,010643	1662,466435	1026,427774	3588,929686	1299,598225	979,5403091	2,038585451	4174,00371	1642,080581	8513,132842	7135,049078	1776,62722	2030,431109
600,9659018	4963,715631	4146,007929	626,4166435	366,9832761	2463,795999	1478,605996	657,614327	1,641983338	2031,133389	606,7128435	3912,025303	6310,96296	1273,358079	801,287869
952,7981814	6055,03736	8192,687769	2000,974509	881,0187519	3701,065382	1646,010481	849,5537965	10,81607843	3452,295578	1524,083778	9593,861565	7830,840781	3184,843457	1535,883137
359,635688	1451,386884	2142,829308	1216,98148	237,6164367	1138,846345	338,2288018	185,1695655	3,211032929	1604,44612	697,8644898	3374,795608	1996,192137	764,225837	604,7445349
1887,917793	6597,457719	14751,44915	5425,200016	1091,30068	6199,149162	1568,407406	1362,236852	4,317707931	5856,970809	3181,071318	11368,52498	9826,023825	4516,322496	1791,848791
1284,053244	5574,815399	10401,42667	2094,773106	413,7945926	4500,140234	1097,498368	1371,376803	14,88469758	3460,19603	1396,184633	6819,176117	6990,846295	1933,026059	1342,599721
1810,899025	5348,261301	18798,38352	6138,977496	474,827062	2642,343065	1085,744725	1254,616275	11,92034465	10200,83494	2136,721779	7779,018248	6711,154039	2644,329789	2051,292642
1469,382815	5139,290618	14547,80253	3076,678717	1314,230592	5784,237112	1529,212757	655,0871624	5,070334075	3832,158494	2243,115795	8987,674181	6371,381798	2526,040436	1605,267768
982,921703	2138,433512	7124,603778	2565,699263	937,669419	2782,489275	1014,493064	625,112946	3,157136091	3419,178386	1153,407052	5973,301484	6468,97185	2654,099074	1479,644448
1208,24071	3870,946943	7035,256137	1703,436335	983,068578	3502,067393	1629,294291	1207,325377	4,576669358	2713,964929	1043,480614	5945,093496	7824,273934	1993,597172	2298,403351
1061,439327	3949,759061	11407,87629	3335,952171	468,4042431	3818,896678	955,5031124	1014,702762	9,347313056	4937,458474	1770,796529	7580,670888	7052,028405	2262,04976	1706,403928
950,716949	4996,617118	5863,825146	3473,11462	914,3156244	4273,943762	1160,559879	769,7809531	6,423763169	5728,926119	1816,85435	7140,012762	4927,02635	2130,548118	1783,664907
1284,08726	4781,802794	11623,8342	3798,419513	562,804068	4621,291887	945,7952839	728,3944346	11,17481001	5223,715736	2425,949665	12650,90083	9167,407779	3424,571323	1689,428096
301,2909042	1622,95367	2440,456324	749,2100484	251,0757535	1099,7118	561,4053848	292,252177	2,008606028	1427,114583	556,3838697	3367,428006	2619,22226	652,796959	561,4053848
737,439617	4019,087295	5252,291593	1056,086365	398,9291755	3198,054635	888,9002791	832,6198145	3,310615564	2561,588793	856,6217773	3796,448399	5671,084462	1485,638735	1022,152556
967,1044565	7292,031297	8485,253481	3135,923781	692,1537932	5037,223541	1171,990472	984,0898257	2,123171145	5689,037083	1517,005783	8126,437557	4546,771007	1760,108879	1153,943517
747,5638221	3932,124345	6494,908118	2666,072345	512,3522228	4847,404264	1079,928038	915,279919	4,090636509	3799,178658	1621,937376	6335,373294	6257,6512	2396,090335	1061,520174
1339,068834	5160,947419	5270,466539	4431,572658	728,2456979	2961,532505	1525,364245	702,2772466	6,774378585	4518,510516	2110,218929	6451,466539	5739,027724	1917,14914	2153,123327
1135,879626	4188,675035	18401,4402	2796,889531	416,6794607	5817,339959	552,7186454	784,84145	11,41587564	5631,83198	1902,645939	6859,038611	6892,334915	2282,223804	1289,042624
2123,931975	7934,885226	10945,7795	3756,607312	748,8288282	5385,128259	1725,110518	1398,99089	1,038597543	9219,630386	3508,382499	14176,85646	5777,71813	1966,065148	2272,451423
1252,130147	5799,619822	11840,93483	5563,248314	1385,222212	4966,995863	1711,031587	1026,406005	8,517892156	5302,387867	2214,651961	10119,25588	5584,543045	2268,953523	1018,952849
1611,504103	7060,95974	12064,50369	5849,739153	1508,840714	5704,558604	2124,821047	988,2647426	11,4070432	5508,564861	2979,312283	15704,38747	10125,30635	5213,018742	2309,407746
1204,228752	4582,584284	12294,48203	3304,798801	1072,877449	4287,306553	1759,056659	857,4613106	5,254052148	4523,7389	2341,205637	8910,872444	6874,401831	2277,106201	1973,421987
1524,418414	4404,79973	10472,31777	3777,770873	932,7444187	7411,002756	1403,795948	994,0955008	0	3781,930268	2049,542084	6174,622473	5514,318453	3867,197874	1054,406734
922,5618587	3321,812188	10351,5567	2555,466874	919,6143767	3479,993721	1476,68847	665,1484328	6,877457946	2747,053202	1295,909576	6499,197759	7467,936835	4105,842394	2169,346735
2211,739825	5177,285508	12366,51989	5168,645899	1124,229081	6897,647588	2076,745939	1291,621499	9,719559777	6293,954931	3722,591395	12758,54213	8594,250745	3068,141036	2338,094102
1361,039568	5447,134305	11298,01723	3554,376655	1114,028742	4031,534113	1983,030682	846,1856788	26,78430636	4093,038817	2346,106835	12406,0939	10022,29064	3688,298187	1817,364787
1599,054076	4250,737002	11924,23454	2691,904531	660,2229407	4304,692814	26485,43678	800,5080529	14,71522156	4569,566802	1689,307435	11194,35955	8014,890677	2817,474422	1450,920846
1073,559112	7598,173387	8240,741614	2419,426101	906,0603819	5356,041263	4695,84159	1320,399346	7,836197898	3253,001652	2194,135411	7369,944123	8935,224653	2623,167246	2898,413697
1425,204875	4952,207896	10865,29195	2940,432664	1092,593897	2542,436622	1867,738569	1258,425581	10,42370587	5287,661703	1968,185189	10483,40527	7906,854704	4284,143111	3189,653995
1062,09564	7067,209933	10481,43967	3737,476239	526,6265153	4890,945509	860,6806481	873,4533061	22,59777957	4954,808799	1892,318411	8015,334163	5708,395622	2363,924246	1289,055948
1072,18335	4307,332499	3990,053753	2160,77767	739,5876987	3833,602509	1456,20004	650,9684626	1,094064643	3758,112049	1317,25383	6910,112285	6081,90535	1818,335437	1633,438512
1363,294354	4590,062644	11284,53939	6490,135088	949,5279092	4476,200625	1218,933579	1244,349209	20,33250341	5658,535698	2899,414986	11931,113	7735,500922	4441,635369	2399,235402
505,6453648	1712,973138	4172,478489	437,6472756	436,2005078	1169,711809	1127,755542	2382,826655	3,616919633	1129,925693	541,0911772	1914,797254	3871,550776	703,8525607	1282,559702
1663,294496	7375,045651	6463,607392	4144,848485	850,3901027	5862,765015	1979,245478	1096,724767	8,568162243	6325,445776	2553,312349	13620,16491	8463,202256	3656,463237	2794,291912
1319,670946	4866,90676	6841,45201	2444,864069	842,4064912	3675,233973	1448,661339	894,9948823	13,89127312	3298,185131	1393,096247	7768,198374	8062,891811	2176,960944	1379,204974
1109,309374	3450,758225	18227,79546	3165,754	483,6435332	5284,573289	576,7257212	879,9625396	16,31337314	4056,272252	1911,543488	5751,903449	6541,662631	2341,448851	1086,278729
1137,41007	7900,054729	11379,25202	3175,26978	839,6641372	5799,348992	1717,447996	832,452298	10,30262745	4971,017745	2325,303015	12836,04354	7311,774701	2607,595008	1683,449325
772,5306813	4034,438512	6730,761462	1609,355203	726,3194832	2897,241203	1373,276257	482,2038063	3,013773789	3205,65072	1303,959459	8382,309499	6806,105807	2054,389133	869,9760338
1506,149855	6857,387013	16097,76321	3875,503979	1724,310837	6005,720104	2068,333923	1366,652689	4,195403495	12315,60696	2389,282291	12574,67313	6786,065154	2633,664544	1370,848092
999,5515807	2809,223596	7098,629926	1747,200041	821,2041717	3258,618762	1505,373046	544,1107395	9,068512325	2711,485185	1589,004882	7163,117124	5701,071415	3145,766164	1667,598655
819,0479102	3883,748307	7502,171234	1519,852988	665,2360961	4699,912245	1251,643637	705,6116973	7,690590706	2295,641326	1229,533189	7325,287648	7280,105427	2638,833936	1412,184718
1103,291495	5648,49236	4783,263763	1557,411476	924,24419	4882,289926	1035,273525	382,100953	6,001585649	3940,040979	957,2529111	6350,677881	4457,177609	1324,3499	850,2246337
703,210531	1691,225327	6731,300805	629,6094288	293,6043969	3528,852847	903,2135261	926,4138736	2,400035942	1792,826849	557,6083505	3325,649804	7167,307335	3548,053134	1959,229341
534,4280778	3028,976447	3918,588565	574,9025381	726,0622572	4170,52143	1583,460008	1091,158409	6,608075151	2242,615504	588,9446978	6233,066886	9846,031975	3289,995416	1667,712966
762,1331998	3796,009591	6241,043251	1000,084289	909,5594184	3053,705649	1637,206953	1413,912271	7,759274659	1839,810236	762,9953415	4940,933674	7508,391445	2214,841844	1698,419009
1734,810682	5006,726633	15739,30618	12918,20202	1013,511813	8858,7233	1209,044639	740,8521509	7,604054334	6800,197162	4515,721981	13726,40437	9447,494364	4479,874296	3743,36732
804,189266	2195,436696	4329,984777	2455,074945	407,8388421	2233,348476	691,6027688	404,3923166	2,297683617	3584,386443	1245,344521	3290,28294	1757,727967	807,6357914	937,4549158
1123,226223	5803,696884	11453,43805	3944,302123	1012,638313	4437,610937	1497,273566	910,7239646	4,336780784	4214,266727	2985,87357	12229,72181	8513,100678	3012,97845	2296,325425
1680,449979	11546,74154	5406,703243	1556,913249	1793,472944	4821,437035	1584,949954	793,7891975	2,628441051	4085,473541	1360,656318	11890,19117	5378,666538	1621,748129	1167,027827
1977,618107	7103,48243	10183,65846	2246,316219	1281,689996	4918,071117	1633,684523	1270,046411	18,80886787	7937,342239	2091,366975	17657,04862	8687,905633	2147,793578	1336,325279
1945,358586	4261,916337	14593,62643	4500,217035	1515,729923	5356,037332	1914,425322	1001,321204	12,60244078	4865,687818	2407,066189	8679,644669	6585,348147	2329,160192	1262,535431
556,1217857	2252,658415	4936,232961	1480,556874	395,4411947	1751,835794	744,9736492	324,4913234	4,173521844	1805,048198	901,4807183	4178,738746	3038,323902	1221,79852	593,6834823
1333,161093	5654,115841	10681,04715	4896,661824	1176,6276	4498,499448	1524,363078	1114,644539	4,202241428	5994,497397	1692,452735	8077,758585	4310,449145	2099,019593	1489,694586
1799,358743	5301,480158	10772,51725	5534,749396	889,9170027	3580,220367	1493,128643	1224,920401	24,66282687	10389,21582	3297,625476	13595,38331	6229,419019	2903,020246	1580,476155
588,1224522	3121,193484	3851,412636	1020,333248	559,5057557	2405,776071	1080,526989	607,858105	2,960347914	2831,079388	891,0647221	6662,756371	5451,974075	1976,525624	983,82229
494,7415432	2555,658769	7373,571302	1391,144421	558,4812512	3341,781835	979,3656724	1500,412492	3,035224191	4612,529029	1257,594557	8998,427986	5316,701042	1929,390844	1089,645485
1141,851737	4661,032998	6243,023697	2089,694852	911,1648686	2897,581499	1695,886307	1137,025652	2,895651065	4916,815509	964,2518048	9592,326762	6798,023484	1664,034146	1214,243013
937,4818832	4721,499666	7049,663231	2077,499959	395,0458417	5428,371033	1120,967642	562,4891299	6,015926523	3752,935496	1934,120377	9842,055792	6610,500595	2373,283013	616,6324686
1159,56247	7358,260723	16921,3939	2948,515806	800,7695883	7800,237429	1557,441727	1047,314418	5,011073769	6192,684964	3505,747209	16709,92659	16666,83136	5403,941953	2145,741788
1964,440211	7006,469718	11059,7074	4744,785337	722,8897328	8082,210524	1696,516044	943,2952738	2,022069183	3192,84724	3162,516202	7744,52497	7763,734627	2980,529975	2074,642982
1511,184023	12467,53294	5863,648169	4096,187668	1263,379495	5189,069177	1825,705155	1487,886162	6,353962257	5316,148422	1806,643268	9946,06892	5808,580497	2223,88679	2372,145909
1388,789238	3902,554289	10896,43659	1999,328875	1179,62288	5486,377022	2705,029784	1093,883518	7,537526391	4498,961065	1819,370433	9546,277175	8421,301361	2747,42837	1646,007326
1463,085698	5971,77836	8670,808901	2273,541333	640,8997847	5926,990022	1567,59182	1027,998989	10,66388993	4494,829605	2046,400477	8942,738094	7418,868223	2323,661615	1522,803482
1974,176312	5007,719366	8546,13374	2369,011574	1388,396128	4062,70382	2540,538369	1379,765849	30,20597636	6670,126851	1652,698421	12470,7531	8668,03643	1843,643343	1208,239054
2705,911207	8227,432724	14004,91881	2367,411118	1608,920177	6732,390663	3351,568785	1172,213272	6,268520171	9195,91909	2749,790848	14653,71065	12269,58348	5342,868692	1248,480267
1598,356629	5295,131556	6855,651208	3529,065083	1382,583597	6325,933528	2170,00177	1106,475926	6,135726021	3895,163403	1655,623405	5909,72678	6534,548213	2936,967522	1178,059396
1188,01653	6597,304634	9092,741383	2683,071116	856,8970581	3842,992661	1388,694998	858,9038428	7,023746378	3268,048851	1886,377599	10808,54228	7013,712455	2817,52569	1709,780547
961,9534025	3523,324432	5981,068272	2540,436244	637,4642243	1758,521998	1533,473052	707,5957563	2,093478569	3693,942935	1083,375159	5541,437772	5165,658369	2398,079701	1285,395841
894,6312302	4540,107946	7817,834948	1566,089811	576,3676256	4312,083717	822,827856	808,273118	6,792211076	4220,874026	1133,328934	8208,872243	6240,101347	1609,754025	1068,317771
1159,120147	3395,551791	21285,03365	4083,532967	529,292108	5493,992942	701,7802251	1098,010071	30,55503789	5180,557392	2138,852652	6599,888184	7260,271261	2579,436586	1622,373947
1646,395673	4367,478464	10732,2921	2646,10462	751,8644376	4338,320287	1972,342444	1588,079318	18,74454277	5259,926973	1616,196132	7983,092491	9330,616843	2025,451982	1476,653425
804,7751999	4093,253172	10912,49555	2869,012914	798,3711532	5656,907904	1908,405912	859,2095967	16,01011671	5443,439681	1741,900698	9237,837341	7310,219289	2169,904485	2090,921242
991,1385014	3981,800018	9397,048043	2687,334586	774,0416342	2939,93795	1407,071752	1179,830171	6,086828054	5663,793504	1697,210556	12210,17708	6430,733839	2416,470737	1280,262834
1653,682314	5068,981894	16773,48785	3806,440008	1863,610847	5900,774195	2149,787008	768,4176499	4,951144651	5591,822769	2863,742066	16150,63385	10264,71309	4407,508969	1563,571481
1812,642474	4837,301234	13041,55357	4439,036558	622,1540083	5386,260653	2019,30955	1047,32846	4,305564072	6181,713616	2031,149851	10889,84793	7445,396671	1857,850897	1400,384714
804,9861924	2033,03735	5824,522316	666,3496815	366,7159321	2042,87607	1186,907419	1735,192459	4,472145513	1525,00162	593,9009241	2359,503973	5169,800213	995,4995912	901,5845354
1306,603053	5384,994712	5870,4712	1106,185906	674,2188501	4876,168653	1138,291565	849,3406294	5,837392642	3883,811904	744,2675618	4632,94396	4835,306905	1957,472333	909,6603534
765,6726427	8756,477935	7056,287385	1889,802879	880,3429559	4845,046463	898,401273	867,702134	9,029158522	4064,927167	1455,500354	10810,6115	5097,862902	2325,911235	1219,839316
1543,280726	4309,298314	10272,26332	2951,763205	841,6929958	5405,728156	1852,149152	1079,447386	7,429824679	3753,122866	1501,885989	8733,228208	7567,807137	2545,245654	2641,833375
1679,694841	6391,265197	17929,03114	5289,722373	496,0102007	5501,395516	1532,260811	902,5068832	13,69030278	8673,33336	2318,926671	13482,84204	7411,719304	2600,104428	1613,349527
1638,444825	6169,849861	7342,391123	5902,136901	893,4141827	6623,301659	1609,390705	849,8330031	0	5513,019225	2942,767273	9211,193612	7026,946394	2482,051946	3120,204933
1509,439069	3495,48724	14709,06975	2872,39249	1241,943538	5491,088822	1902,190444	990,3703597	4,245960813	3954,051008	1855,484875	6695,880203	6320,112671	3167,486767	1460,61052
927,483448	5009,392083	11595,0153	3451,808769	629,1184023	5242,980507	840,133155	847,0034028	1,962927932	5645,380733	1858,892752	10217,03989	5612,010959	2141,554374	1222,904102
1206,015941	5342,007916	12214,21944	2389,348197	1126,623042	4255,081323	1828,872137	846,857589	15,12245695	5498,903407	1717,344017	12547,85865	8875,937074	3637,896049	1231,535088
814,6750052	3237,589479	3926,560803	1284,864349	459,6340724	2404,682642	989,3167613	860,7343695	1,919140177	2713,664211	783,0091923	5914,790026	5843,78184	1264,713377	1129,413994
1309,938563	5270,464212	16295,33922	4726,156676	937,1832082	4599,080987	2092,513016	854,5840102	6,353784463	6000,090461	3485,050778	14773,60784	10859,67661	5748,057011	1842,597494
1147,091658	7785,922396	17825,74394	4029,423814	1111,843012	3770,59804	1411,960057	1140,041929	7,049729242	8205,884838	2451,291568	17202,34646	14436,83838	2350,58115	1955,796313
848,2741613	5411,692161	6716,586549	1278,907871	309,9820239	3394,952825	834,352813	734,1191046	4,64044946	2066,85619	774,02697	4532,791033	5924,925871	1458,02922	889,1101166
2851,796016	5934,167233	14099,67358	4480,495394	1348,864929	6951,842328	2113,955371	1079,511171	7,336483687	7834,316508	3046,736868	13545,24502	8951,558167	4240,487571	1388,691555
1283,270543	4529,965289	10096,88616	2399,290186	824,0907989	3918,739272	1678,590852	1199,138272	9,122776371	6298,770263	1661,358941	16126,0277	10635,12997	3012,543486	1013,641819
1685,62965	6584,296923	12287,51626	3698,043945	1453,98484	3780,774234	2509,830161	1216,135257	20,6825724	4278,190101	2820,068747	12949,35858	12830,43379	4479,845182	2463,294373
1163,498719	7320,305127	9979,73077	2870,881455	1096,619672	6888,541866	1763,443113	1372,987499	1,967030801	3586,880666	2452,887409	7816,980404	7825,832043	3215,111845	1869,662777
3088,544309	6653,021649	12593,14783	8147,089897	1779,226435	5032,439557	2158,767966	946,8456708	2,008156248	8715,398115	4024,34512	15527,06411	8319,791334	3045,36895	1731,030685
855,4833614	5473,749319	6880,352152	2853,531482	1367,237157	3443,056492	1525,660001	796,9149158	12,48179989	6080,556821	2327,375609	16349,23757	8121,811172	4333,104837	1501,65654
1555,700508	5682,882445	10368,28633	1231,748755	939,8261306	4467,605813	2282,304158	1814,678887	6,405825623	4721,093484	1665,514662	10207,22557	10629,09494	3578,111169	3034,531109
589,6955631	2784,622062	3979,750747	913,7041143	303,6422994	1998,669891	1018,312589	597,1014728	9,257387176	1776,492599	830,3876297	5346,141094	7108,747612	2471,722376	1300,662898
1275,38249	3825,05926	10469,67145	4522,602072	787,8642686	4870,829373	1643,197577	1126,297677	5,441051579	4839,271274	2191,655576	12267,39489	9725,335592	4290,813275	3505,125427
1484,876192	6585,566359	12125,03599	2403,116655	917,2718549	5920,132605	2173,556539	700,3036442	2,90582425	5115,219288	1978,866314	10124,8603	7170,605641	2741,160876	1797,736603
1493,808594	6760,301666	14336,20102	2496,950131	1687,894674	5552,170336	2042,265326	932,2674072	2,180742473	5804,046092	3696,358492	12480,38917	9834,058182	5549,989594	1500,350821
1039,253493	4642,911419	8193,775659	1209,366483	489,8080903	4752,409435	1253,361221	732,2679834	1,955321718	3365,108677	1115,51104	6259,96248	7849,639037	2338,564775	2920,272986
444,4743388	1009,39783	3477,757231	570,8611259	665,8632747	1181,589225	1390,254659	989,0402271	9,33056818	1624,367097	240,8983057	1238,420868	2196,076456	565,7717251	1093,372944
186,9587878	1750,272471	1350,049136	359,8252047	140,9237094	815,4785317	237,6913232	434,045025	6,576439772	616,3063558	251,7836941	1287,103213	1504,125725	369,2201186	465,9877324
1631,338844	5778,24655	12565,74538	4825,455939	814,6611782	4822,431207	1583,951375	1192,75269	19,15663662	4948,461711	2845,264659	12572,80308	10578,49639	5314,454295	3135,638941

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2697.951842	1049.203494	318.2366706	1609.647597	8988.828279	1040.514438	16616.73319	1369.612429	2562.185344	1694.365891	564.7886304	2388.404227	2372.112248	1413.057708	1006.844347
5392.689267	2197.982323	1467.649568	4904.803041	12502.45869	3631.709331	41951.23138	3211.668224	5807.741762	7823.140897	984.7519532	6364.47083	5809.737207	3225.636337	1450.688288
11527.82125	4136.013698	1926.967762	8404.570151	20919.09859	4508.719396	42641.38362	4073.707274	10724.63481	6821.986986	2691.637509	5164.636113	6875.230658	2983.911279	4661.653346
7767.813991	3594.497471	1040.211613	6278.679884	38517.96567	3682.827128	50994.26999	6572.765685	8212.579795	8035.92048	1780.10239	8927.530434	10597.48055	5219.763167	2343.333853
4875.158006	2751.920961	1716.497602	6286.839163	16150.50879	4431.269059	56670.13975	4570.341561	7533.728931	10439.96322	2495.684638	6420.196358	7790.917806	3240.579823	1437.400045
7082.192639	2487.962299	1309.735203	5078.565072	16777.44065	2419.535317	52710.15959	4796.303771	8704.125947	4184.737619	929.1101153	4933.157735	6095.347258	2729.59508	1936.269757
1155.242956	671.9705884	173.3291353	829.0767997	3206.162083	531.0873011	17815.33205	1624.853913	1494.216683	1067.297631	332.9968608	2231.078968	1311.495329	934.9527247	537.0641679
5728.682704	2589.619334	887.3143364	4658.939995	23802.04515	2381.283973	41354.02947	3832.075297	6063.314632	5764.304813	1294.269938	3834.234213	4342.658851	2380.204515	1377.388191
5921.31568	2086.657684	842.3984232	4954.396998	11588.87416	2578.135376	53627.66849	2701.7123	6479.770178	4154.448663	831.0783996	5254.377623	8528.694451	3109.23315	2074.394325
4944.344669	3573.026652	676.7180599	4554.854588	19865.67054	2365.998568	30673.04237	3972.01649	4282.71446	3640.083767	1500.961774	4529.14936	4840.406139	2981.247605	1737.896917
4007.161621	2317.607825	874.6315789	3914.280391	21835.93479	1361.152305	48955.04238	1975.937587	5625.948765	2803.022822	1395.429902	5045.44108	6649.853749	5732.098742	2416.017699
9506.648682	4599.400527	1437.203654	5833.407305	37431.82962	4731.086056	139456.7193	20275.21101	12202.27762	10152.86707	2468.885645	11691.23312	9682.81078	3995.914527	3313.940463
8882.775388	3101.355375	1256.159793	5866.256592	28427.00216	4874.247055	56625.52398	4688.185013	8811.435538	5979.050679	1783.496252	7922.579568	11396.05903	4444.27985	2706.094043
3695.539975	2081.695449	837.3084568	6783.356069	19657.45591	2038.286601	48505.04739	2384.592748	6297.176966	2822.539798	1411.269899	1928.317517	4871.43745	2237.967304	1178.791399
8609.383237	3494.551283	1268.85493	5575.736117	47915.42168	4008.00509	49387.90648	6297.198929	8465.966502	10001.94879	2078.995265	10687.28372	9570.603796	6278.587597	3651.105429
1889.013708	1188.139419	298.2653224	2710.965999	5456.385088	442.9683005	26074.09854	520.7338466	3135.231194	850.499137	500.0619926	1042.452067	3356.715344	760.9211029	1038.514571
8511.160196	3681.113704	1280.858232	8040.560477	24617.87862	3011.6413	83603.32002	4891.086623	12568.35987	7668.412582	2195.475678	7216.518709	9088.087886	3794.333302	2640.477923
9769.980351	3945.340646	1945.14469	7649.966937	43022.02374	5161.865654	59701.47754	5681.074642	9546.536982	9885.480063	3295.519833	11181.88338	11795.00335	7968.400724	3145.478151
6424.053693	3199.773303	998.397464	7348.929893	23876.29709	2563.654534	45656.70538	3906.216759	7929.641331	4833.224009	1266.909909	5831.621473	8566.825625	3598.279868	2230.145029
2573.777446	878.2920067	437.2366729	2312.199174	9156.19417	1247.747449	31601.32827	1052.995743	2279.740557	2557.548137	571.8444696	3327.962973	3590.49591	2119.356799	1436.771163
6035.037266	2233.801988	1106.423499	2988.181646	14859.18377	3192.492804	44668.70551	1740.311962	6015.130025	3837.906511	1455.324091	8376.757455	9985.052976	5569.836477	3244.88028
8490.903321	2131.30828	1023.218695	4726.06883	13380.03869	3455.866311	42453.563	4070.941855	6397.739261	7508.689662	647.4981306	4582.0744	4848.130333	1395.124838	2486.049524
5399.62282	2230.599418	1424.832227	12048.18479	20832.02981	4069.124313	36072.82142	11440.91146	3850.977585	8878.17874	1485.756088	5690.485123	4444.493906	4252.878538	2046.845193
4747.903659	2113.777936	793.4763959	4072.099273	16646.81092	1738.091153	38551.07768	4149.827573	4998.361514	4544.946431	1142.174186	6820.658326	9830.470832	4294.488575	2987.141752
10239.93159	4000.247275	1346.137879	6551.204343	24958.73725	3943.513495	55821.91375	4092.052847	8684.394484	10972.31312	1781.440702	7284.617394	9917.064802	3058.466521	3419.499669
10102.28669	3619.755376	1956.882521	9342.44353	24362.7101	6394.710249	69436.8739	3238.879217	11292.64401	12584.18648	1705.828813	7497.246499	6188.521652	2924.823437	1828.014648
1990.459026	916.9737231	427.1845457	2610.060748	3402.745864	980.4990112	22802.81644	924.3389739	2674.506692	2118.430258	480.5826139	1036.659048	2894.54356	633.4115678	802.8123359
8161.888007	3008.134228	1367.426096	6643.090077	29299.08515	2781.584437	69176.92806	2652.562806	9995.620625	6443.970081	1797.159557	7675.263119	7338.994145	4154.090125	3388.08769
1989.218639	579.4420661	227.9935277	985.6488754	4805.784971	525.6794002	15543.38408	607.319004	1987.22743	825.3564825	153.3231584	1357.009512	2282.922092	771.5938166	999.5873443
5828.974125	3545.846113	2288.350172	7178.380068	48437.61566	5563.688437	47005.6996	9926.280252	8853.648747	8681.317493	4819.008531	15180.81686	10184.25492	14524.91366	3588.667818
2299.742241	1428.938868	496.5352566	5142.686586	13820.85353	606.6690165	71697.07771	1218.938055	5843.622634	1073.337491	1335.605173	1807.873669	4971.885925	1558.672704	1479.339063
6079.146273	2963.642038	928.8749171	7208.330225	17194.90017	2324.516468	86956.48096	3784.443243	10352.71623	4411.457104	1284.772829	3486.308867	5521.075987	2037.56213	2193.151008
1987.642363	1030.817075	366.9181721	2236.984547	8849.620334	777.420547	20178.47229	1345.028769	2456.932733	1543.691647	539.227811	1784.925141	2342.397502	1344.015183	740.931447
1069.201698	837.1966199	333.6197057	3529.534622	4184.18461	437.032822	29554.5694	826.405686	2399.184298	671.7356338	504.4761587	611.486253	2793.952629	544.9421607	715.7986138
6803.946496	3011.436817	1367.124998	5812.013659	34594.89514	4044.947677	78956.66589	5179.433736	8296.795517	7981.990485	1901.699581	10885.52243	11613.13784	7144.490305	1906.649346
7379.094369	3860.308848	1517.438918	11297.15352	22631.14774	3337.569063	56620.18639	2659.500885	7988.459604	5550.998665	2120.829983	3705.976149	6707.00036	3001.024211	1717.573578
1771.019617	1436.132625	526.2509871	3072.655849	10451.90425	566.8707031	33032.8557	1186.095707	2670.069331	862.0406392	853.0140357	1964.188933	8213.306572	1805.32071	1805.32071
5634.89152	2957.225227	1155.849118	6735.845429	24335.8593	2634.97002	69307.2342	3138.1761	9393.180163	7028.619876	1587.894742	7007.271739	7570.455917	4140.521949	2797.62249
5747.878246	3551.939622	1011.662162	6768.438052	18776.69886	2056.245608	79906.18479	2296.482005	8502.588935	2966.474624	1472.560139	4003.05019	11396.10288	2444.182901	2945.120278
8682.411815	4807.365112	1538.482683	7424.988	21007.05291	5025.500352	56998.3189	5322.290127	10959.19839	9331.573901	2040.822973	7755.337042	10410.71411	2851.489036	2969.9952
6607.065439	2577.096195	958.8962125	6440.736525	15257.17098	2259.468087	64744.031	1975.907347	10482.72955	5909.686376	1039.054726	5048.984342	8171.158425	2671.282448	3009.952165
1284.353515	1369.000388	409.3978567	6188.17476	11787.07706	409.3978567	49170.88015	1089.014577	4670.228433	525.787307	791.9366095	498.9282031	4023.168202	625.0846003	1145.174522
6592.236444	2272.540309	1042.792719	4708.14681	15808.0729	2784.588925	33110.74612	3537.601596	5525.555047	7218.535259	954.5084753	4272.957418	5150.606669	1948.485201	1841.50547
4924.979106	2203.525952	867.7097013	2903.09095	13721.4381	1820.529684	36849.63819	1923.284781	4197.389991	3350.438895	1399.129997	8369.869655	10416.66814	8082.362971	2505.563659
10447.42332	3802.404658	1756.212678	6517.386931	28737.56152	6294.797184	52282.04299	5468.764594	9696.94872	8472.705115	1611.223026	8422.673475	9910.348981	4594.74247	2620.024262
1603.946474	451.1720566	284.2185202	1190.537718	2874.979647	711.5400716	12721.26321	512.7858617	1532.394959	1233.269873	193.7853547	1270.039402	1703.323579	542.5989931	495.8917538
7816.821573	4353.022211	1984.993643	7408.574224	48360.34098	10845.22174	53009.12434	5968.556852	11210.80191	12004.0236	4643.934811	8968.83547	6496.078367	5134.607397	2023.78199
4045.29311	1287.389435	735.8087004	2205.219778	14790.08583	1388.88029	25287.77037	1931.635734	3320.516024	3708.828861	902.3860823	3545.560964	3124.153282	2381.725613	1364.610738
4392.795054	1388.140076	590.4068101	6431.329798	22045.0115	2239.546688	35726.45273	1650.192296	3627.686764	6520.785376	1409.188447	3029.913024	3446.670772	2225.865247	1263.954686
2749.905817	1963.526408	906.677696	8264.25013	8264.25013	1353.961261	54828.56842	558.7007708	6203.839195	2732.951025	968.0378962	1936.075792	7353.535579	1314.400079	1552.574541
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7654.571092	4571.049539	1370.798359	7521.313376	39978.34761	3045.300348	89279.57028	5786.897066	12363.01037	7281.65609	2651.725235	7128.771269	10262.91009	5086.519306	3634.113509
9418.208884	4337.730107	1299.566807	7932.711544	11452.73669	3427.546613	55528.00735	5515.614629	12365.84056	8075.809912	1897.270193	3765.336637	5336.498305	1732.755743	2366.477085
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3565.388607	1783.212077	684.496622	2347.585238	13137.98584	1845.344902	22434.09201	3048.650613	4063.486754	3556.068684	1012.765047	4316.160243	4115.264109	2362.082897	1172.239298
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5864.703563	1595.856987	769.110472	3519.57802	13671.08037	2089.070336	51203.48243	3270.136786	6545.942691	5595.420412	675.5700092	5411.174046	4727.100358	1580.739336	1692.232009
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9513.655155	3551.918127	1438.354113	5718.870831	33998.12703	4517.101892	55432.11573	5363.993069	10105.11809	10130.24218	2079.018391	9781.645441	9341.973878	4593.520997	3035.827459
9967.266651	3685.780161	1960.085812	8533.282201	33634.66312	7050.167662	61108.61788	14131.04163	11387.94504	11084.97616	3389.976088	9865.935844	9700.121796	8703.190423	3732.863163
6770.983514	3180.150888	1427.90881	6017.013966	24698.82089	3233.855423	51352.06564	3891.999233	8187.308993	7041.612249	1594.287565	7460.718227	7354.362187	3704.559876	2810.537325
7190.868965	3701.965875	1638.944494	5171.894217	21895.27409	2054.826659	43770.06138	2917.321198	4962.928794	4667.918786	1512.950636	9545.827334	9596.02001	8277.694033	3197.990443
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4901.065604	1943.157685	1180.314746	5607.83024	22707.26181	4439.087208	28415.67695	2323.243957	3670.903478	9784.328572	2081.128111	4922.428767	3299.718524	3027.338198	2204.856429
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3770.814736	1712.588622	557.4533433	3893.142495	5306.069157	903.9118277	41736.75348	411.3168262	4558.145747	1451.513271	1014.745703	1428.525504	6090.116201	670.7501937	1325.901546
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1579.828201	1039.304325	455.9666759	1667.596434	7796.387951	1116.369115	12395.65745	1142.057378	1763.927422	1654.752303	678.5982922	1337.930387	1192.363561	1062.851899	347.8619006
7689.837826	2458.934667	980.1197004	6442.020233	22535.19712	3012.680709	56246.78122	2335.879991	6693.52672	5060.353695	1444.273303	5484.5685	5809.476022	3812.536103	1974.271952
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10721.72843	2916.45616	1231.077113	6307.495589	19851.37197	4195.194413	49609.16265	4178.969344	8291.010279	8420.810831	1839.517202	6058.035152	7402.687749	2577.757844	2235.00326
4326.328823	2504.661299	988.1835964	4432.619072	16819.11633	2132.11924	29401.35604	3386.554647	5141.922313	4866.199095	1513.320566	5425.012183	7048.832512	2914.036612	2013.200447
4475.982632	2584.902853	990.391249	3672.319493	13059.98368	866.8211764	61469.24614	1704.351669	7268.666274	1685.129658	672.7703956	3504.813394	8355.167579	1967.967824	1509.385554
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5769.609953	2074.875504	1074.909704	3823.209713	23504.54943	3238.647264	38755.63382	1844.690657	5253.567645	7267.417398	1221.585629	4151.892261	4134.762226	2604.835965	1554.550687
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3831.209862	1467.430349	974.9762837	6802.487331	8217.775485	3326.340988	68618.30115	5057.792929	6454.872697	3231.160791	874.002509	2820.644461	7193.967622	1579.991278	1343.282265
4418.319153	2607.254166	988.3361679	5346.144943	16423.79039	2458.632186	50831.90197	5903.477368	7023.450147	5268.649196	1455.43382	5861.013945	5335.529087	4216.617894	2606.19258
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5834.463773	1950.212088	1209.131494	9016.639106	17662.26225	3852.858027	29530.0163	10064.0457	3245.913972	8437.283418	1230.0606	4801.327028	3473.280162	2547.642913	1966.384578
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4522.419846	2900.322265	1142.640513	6188.729657	19908.27576	2320.65081	43193.38338	2827.61771	6154.342367	5201.323195	1897.195899	5622.813118	7247.858181	3483.923697	1661.397341
6442.988181	2260.337624	1077.791184	3611.356433	16011.35481	3450.443721	43127.84663	1790.558901	6219.438306	5160.006291	1523.810983	9010.031913	12030.6551	4504.475981	3635.115357
8502.529253	2877.824917	1285.646705	5904.451536	27054.13345	3675.40204	48223.65559	4073.19859	7574.006632	6812.141918	1038.63588	7454.965271	8180.125565	3953.165217	2572.285422
9021.411832	3884.818492	1401.870107	6452.134147	17651.39877	3078.424351	64859.79157	3570.893765	9335.336558	6820.014686	1418.547358	5737.955394	9727.742466	3084.310439	2839.056746
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260.4055317	660.4921915	2661.923213	462.9431675	5457.54122	12933.47474	3665.631891	573.6903476	279.3622562	527.7951198	1596.35575	618.5878531	757.2712588	20.95216922	70.8382864
629.8613026	1815.949043	4622.003803	578.8833195	9291.587058	1615.435643	9449.052383	1668.679314	261.68698	592.4774483	3381.539547	1550.863531	1727.587206	649.1196518	18.12550511
607.9158775	1244.928583	4758.370604	4445.579699	6545.747201	4645.100808	7378.124326	1434.057968	446.8441493	269.145662	3695.297197	1063.073406	1015.271474	74.8204157	48.84110469
234.3276415	1541.228146	2075.609475	1456.451073	11561.1162	9154.018842	2674.764299	1026.850397	1784.12875	714.4135413	2201.346259	681.0742427	450.5568067	40.00715831	67.63114857
173.2057982	880.9973935	2427.019519	719.5524828	6669.492404	6069.68714	4240.334542	1230.616505	1315.081061	469.3663298	2223.876916	907.7266834	1346.087037	159.3065675	119.7472185
39.27655282	172.4752972	1260.265043	555.8486062	1864.782421	123.8065252	404.7192616	203.2134689	56.35331491	443.9958144	655.7476644	243.3438598	144.2986397	1.707676209	32.44584798
224.5272287	1104.28536	2113.578431	1970.01054	3500.681743	3004.131141	7640.402522	707.0448787	43.1783132	406.955602	2355.376985	647.6746981	582.9072283	955.3201797	205.0969877
336.7707022	1306.519391	3093.19645	524.494427	5380.784553	5093.067287	7391.975414	704.6714694	322.6206727	529.2111035	2127.221102	940.5052945	1148.039061	421.6708793	19.81004131
341.4324811	1189.146186	2671.108445	2706.87224	4192.187354	2947.160238	5458.449223	1015.356495	549.30954	557.6916794	4265.391372	837.0963284	1335.554222	366.5788995	593.4554745
384.7936655	1626.527247	3557.129948	2747.736376	3164.59618	2588.511411	7539.965533	1046.019562	406.908244	651.2743362	4217.250116	574.9790405	1125.632045	872.420121	55.2864462
584.3000291	1865.399645	6723.810782	1634.295902	6415.963155	92.44149714	2226.444738	1382.262009	81.10433239	1818.306807	2591.850278	955.8101968	435.1727082	19.1859711	197.0922486
476.241702	1061.421283	4000.815917	1973.414502	8437.383351	5934.704286	4058.659039	729.7873854	375.016239	435.7515168	2989.52534	980.4409127	1114.444145	52.05880953	75.1960582
218.0088839	948.2421809	1235.705223	1804.843459	2255.330843	3210.325512	2777.201667	591.3249816	246.9481163	382.9625085	2678.808277	411.9017409	1517.380418	201.6099856	56.91382368
754.306339	1259.001872	6295.00936	3322.670158	5225.405161	6130.791725	7228.860314	1186.746112	347.046603	495.9372592	4447.013569	1202.073092	1299.508889	165.3124197	64.59226996
136.8279862	791.4366969	742.2179969	180.1404422	2095.732248	388.8277305	2416.638173	340.5934044	29.53122004	152.5779702	1064.108295	295.3122004	605.3900107	273.6559723	10.82811401
335.7207203	1717.984331	3178.024883	740.3577175	6341.281992	4691.22942	4290.530496	923.4781104	25.59747427	418.4202526	4038.493826	874.2521983	801.3978485	216.5940131	46.27235734
622.8348981	1422.697393	7264.608083	4428.928227	7955.447485	7988.910018	3490.897852	1395.711479	793.3858754	532.1622266	3156.272516	1300.721061	804.180241	57.21013795	53.97182826
337.7716074	1108.146598	3699.504797	879.0585996	8418.71757	11381.9442	6649.945115	1412.886913	469.8967787	483.7486112	3281.818772	1432.066373	1429.935322	174.7461943	220.5637941
231.9836496	579.4817914	2503.132219	716.9535837	3392.880209	1012.899803	1419.587189	446.7833252	195.7063711	284.490237	1824.365244	340.8154852	671.129653	40.09593944	46.77859601
326.8978519	1503.520569	4698.108872	2558.604341	11858.42913	8826.242001	3895.532735	830.8653736	69.15146867	518.636015	3904.962481	1034.128781	1529.714307	95.3452068	29.33698671
309.9217857	813.4254867	3220.325754	387.1638307	4949.212516	3864.963068	2734.940558	549.2767647	616.0291493	822.9615416	3019.114995	718.0649372	1259.712858	133.5047692	61.98435713
228.9557993	917.788483	3009.83525	291.8449459	7273.52286	53573.69175	2171.640843	720.277257	11849.69092	1466.10323	1969.216402	468.7206706	225.0252276	6.878500408	958.0768425
518.1886667	1932.411903	3884.255881	918.7053237	5464.731314	10343.2617	4846.143594	885.2389723	1165.9245	511.7113084	3737.435759	1128.13991	1351.608772	209.4345861	302.2767223
587.9682689	1691.698177	4354.059759	1711.297119	8767.947869	12537.13393	11961.54394	1529.749022	14.4413259	388.8842761	3587.637963	1182.125677	1148.085409	311.5200302	31.97722164
269.1906688	994.669067	2761.590797	192.8245216	7449.517657	8674.239743	3317.154518	1138.81017	18.13695995	355.1025844	1669.554893	1438.547297	924.0303808	24.81899783	290.1913593
92.9862912	774.2719891	707.984732	68.12856979	2005.189527	2248.242803	2572.313838	197.0204586	23.93706506	140.8604213	936.3075065	271.5936228	556.9970909	223.7194927	79.17644597
434.8130529	1541.148134	4724.020318	2987.815861	6056.90519	813.7505967	4108.373799	824.9256985	53.84367244	577.0416216	4540.139097	778.1934545	1707.758743	297.6640759	37.58897887
108.5209368	344.4793039	1300.260032	173.2352569	1982.249405	203.1034046	956.7763326	275.7825641	20.90770342	116.4857762	796.4839397	301.6682922	419.1496733	28.87254281	190.1605406
607.8593336	1262.7181	12673.136	5448.800934	6844.161878	12684.62475	2727.011546	1364.027989	1147.830597	596.3705833	3279.515992	1308.673101	490.882967	11.48875029	101.3098889
310.8012038	1433.605553	1023.870632	550.6687996	2343.609078	657.0692117	3746.414511	541.3354301	51.33353217	131.6005097	3425.346601	567.4688647	2273.608807	202.5341178	17.73340202
179.8122959	1279.18281	2351.534896	1018.31523	4148.726185	2633.830883	4676.051363	676.3923669	292.5443571	1217.692594	3326.061639	853.4096531	947.5083157	419.2514671	69.87524452
102.3721972	471.3175415	1012.572525	677.075522	1265.969052	1447.400966	1336.92008	240.2199083	162.1737777	199.6764638	931.4856359	248.3285972	409.4887888	56.76082221	16.21737777
129.4912065	1173.514059	249.9899681	112.4055612	1432.496472	2794.851874	2025.098591	257.183924	592.6021187	166.3602306	1276.027931	272.4710804	1003.55685	300.3476595	39.56675754
616.7406762	1250.310552	5056.679573	2037.323132	5633.822132	2612.485786	7345.45075	1013.711802	422.7099016	632.5799231	2977.778417	907.7868379	671.1880874	251.4480445	499.9262303
271.824688	1240.635756	2235.334889	3006.99838	6962.893931	19955.71574	4791.283512	1464.667092	51.77613105	682.0509571	2710.281321	879.198533	1222.713249	174.2465949	13.93972759
454.940819	2992.319078	1196.927631	930.6428262	2357.748848	1146.378651	2807.273705	676.0926061	322.2497468	132.6910722	2977.876512	476.6046676	1938.914443	77.62879055	27.98247101
398.4985524	1155.849118	4016.49944	1129.418091	5117.453349	1523.850332	4702.689549	753.2842534	25.41444849	395.4488186	3492.961801	754.3008313	826.477865	164.6856262	23.38129261
437.7641017	2277.796952	2819.663493	703.8036676	4947.98002	7830.816787	5095.680916	1007.21334	86.30715013	482.2523234	6172.295881	944.0400649	1793.7651	114.779612	24.02363973
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301.5964054	1856.671559	2294.537436	376.7450114	5061.008118	2578.098176	15594.83872	721.4266176	329.651885	798.5791864	3439.802192	773.5296511	874.7297738	1659.28122	71.14068034
236.8484618	1778.398244	458.2325911	272.6606004	942.5103738	991.3451082	2056.75623	287.3110207	39.88169976	122.086836	3173.443823	263.7075657	2891.016276	381.7248405	65.92689143
269.0072852	696.9262099	2381.597316	463.2326224	4486.91688	4078.732081	4622.97848	596.1783077	566.0578009	468.4258132	2910.264143	721.8535259	2565.436272	208.7662715	346.9051477
330.0618242	867.7097013	5154.361695	5572.647591	8928.276137	4752.682682	2974.708139	1663.802214	161.9171213	247.027403	1923.284781	956.9717041	809.5856065	30.09997768	20.75860529
539.1164498	1182.380396	5242.090632	2394.371354	7113.682398	6131.428563	3216.319729	1179.317234	149.0738668	528.905911	2444.402994	1231.390982	1428.454381	59.22112517	25.52634706
66.58266033	283.2247492	569.4308115	121.2400681	1848.414152	2406.913482	2016.36146	172.9161626	311.0503386	146.0843443	546.5740773	181.8601021	300.118857	57.63872088	52.66986563
312.2461911	636.1288862	5752.311819	1996.630147	7704.335367	12658.57695	11165.2256	1008.497015	79.51611078	662.3110202	3259.190833	1076.376621	626.4317995	87.27378012	90.18290612
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221.0078968	616.7172741	1647.035041	929.2855853	4234.932271	2132.199995	5184.213809	819.8340554	147.3385979	499.8988143	2119.570973	690.386573	1352.357845	466.2214205	374.6610061
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354.4348167	1619.696427	2807.204531	572.54855	4923.715573	4597.554759	7372.446144	773.4959247	233.2605204	607.8910531	2587.071226	795.7112123	1085.519738	373.6207469	156.5167994
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179.116324	1117.530108	1647.091414	319.2943167	5316.055681	1606.206166	5337.471763	708.6776297	9.734582825	704.7837966	3258.164872	902.3958279	749.5628776	276.4621522	18.49570737
316.686724	967.2948236	2843.717521	916.6680343	7912.859436	1590.97378	2547.496946	1237.663421	511.6537207	386.7024963	3904.725763	1041.619259	2353.607115	50.62678921	221.8961399
166.7230804	446.3207929	2985.482241	663.7856803	2917.136133	2982.3756	3868.803903	462.8895462	158.4387037	313.7707662	1093.53772	380.0457795	537.4489362	125.3011971	16.56875333
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307.0772769	609.430288	2747.632989	416.6802434	3968.383271	874.9340259	5628.490273	430.8530408	30.23530111	659.5075055	2285.599793	535.7317416	450.6949572	156.8456245	8.503678438
316.4245157	1078.227374	5759.576374	3997.568625	13671.27291	9305.264783	5455.071959	2419.780629	891.8403303	559.1611305	2749.208892	1582.122579	1895.296158	53.09863449	784.5594157
604.0074948	946.8799391	5554.958208	4062.454627	9895.532278	3937.194724	7918.973482	1536.02609	469.1938712	780.2205776	3235.526967	1243.045301	1393.781794	144.367345	71.12214789
586.2287507	1233.174051	5678.044186	3711.03736	8900.208641	11020.05368	10995.97642	1725.187466	1120.115649	630.1959071	3443.047074	1154.661272	925.4039565	327.6599982	105.7305425
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349.6059917	924.5604239	4346.908234	1569.014842	5851.688241	1503.726976	4591.211217	878.2270997	501.2423255	434.9014295	3015.878194	805.5680231	882.4392201	113.7272503	36.85605334
405.6387621	954.6851675	7551.436754	4191.600542	9157.602358	1138.042083	5278.425609	1883.761827	297.0586895	314.4724747	3043.315056	1134.969062	1011.023884	43.02229296	40.97361234
432.0829909	1967.811923	3974.348266	1676.359717	6808.364298	845.822836	6074.638464	1042.502122	84.5822836	724.5542607	4284.143618	1746.67511	1260.581745	88.65853823	34.64816437
619.1949567	1491.122549	11511.97154	2506.265301	7554.599693	4450.200488	15597.81581	1674.353709	284.3242148	1306.838335	3130.725521	1510.077496	1106.758332	379.0989531	887.7233818
262.9535202	726.4648099	1955.438254	884.682606	13380.54586	1567.693232	4450.154066	1516.43958	329.80611	449.026562	2828.978761	1122.0093	1321.45286	65.73838004	484.6812766
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127.2537087	1132.968503	887.4919943	77.1732169	4573.744589	8209.916691	3042.595126	521.3297099	6.567933353	151.0624671	2436.703274	587.8300351	1060.721236	403.1069095	6.567933353
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63.15031426	138.0744159	767.4368699	609.0259121	1363.61865	2088.241748	1085.32913	222.6316164	88.83857769	141.2854489	576.9155828	215.1392062	630.4327983	14.98482033	195.8730086
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317.8183665	862.9505315	3447.592611	914.5170877	4278.971782	1137.621371	2432.047169	550.3940585	37.88563309	148.3853963	2059.50511	569.3368751	1491.220614	12.62854436	15.78568045
249.8861469	1042.56528	1388.561483	358.8108776	6126.329602	2204.123963	3870.946943	1005.951925	200.4581179	245.3094776	3016.025107	1232.954725	4119.002422	182.1514404	26.54468227
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372.8322977	791.3797274	2933.895575	1196.720563	6199.987774	23193.82613	4399.82747	776.1413501	1252.594613	418.5474296	3117.771994	1070.749978	3308.759656	45.71513188	108.7004247
69.29690796	314.3468434	773.3133207	253.0843595	1672.164518	4471.157018	1133.858103	235.0069053	50.2151507	148.6368461	937.014712	299.2822981	450.9320532	21.09036329	70.30121097
208.5687806	1367.284228	1166.991986	467.6244485	5891.240397	11135.25545	2881.063195	867.3812779	888.0726252	494.109373	1685.930976	385.6867133	557.8387226	101.8014286	29.79554008
270.704321	1064.770329	3369.472607	627.3970733	4663.54542	8697.570595	3220.850627	593.426335	2006.396732	944.8111595	2277.101053	996.8288525	567.9482813	80.68050351	139.06771
328.2735799	998.1153083	2595.508865	982.7754214	3991.438574	3507.720807	3982.234642	560.4172018	42.95168335	509.2842454	3315.460891	719.9520256	1479.787757	344.6361259	362.0213311
254.0391969	837.7648183	3172.667304	2101.186424	4935.134799	5288.531549	7272.295411	886.3145315	1008.253346	588.2418738	2916.369981	770.0210325	987.9302103	373.7198853	110.6481836
168.3841656	1066.433049	2458.218554	164.5788738	6097.980236	47661.28078	1923.575045	504.2011739	13199.6062	2035.831155	2259.392053	473.7588389	235.9280965	14.26984454	859.0446416
362.4705424	1458.19095	4141.927	1391.720707	8553.889361	1725.110518	8095.867845	874.4991309	25.96493857	940.9693736	5214.798262	2195.595205	1025.095775	173.4457896	764.4077914
467.4193321	1091.354932	5235.309466	1547.062163	5689.95196	3704.218351	5395.019944	938.0328737	250.2130821	453.5777573	3145.231679	922.0618259	912.4791972	112.8620711	502.5556372
793.3080043	1109.594202	7834.56467	6605.715016	8477.507105	3928.170876	4185.34785	1743.203602	192.8827305	502.9469047	3340.18965	1220.553622	1040.114939	57.035216	36.29513745
319.4463706	1161.145525	3691.497039	1375.510852	6959.517476	2542.96124	7590.003733	965.6947849	632.5878787	742.9229738	2263.445665	905.7985904	1429.102184	98.77618039	40.98160676
363.9470976	1544.175543	3592.677778	1704.312266	11621.35075	3464.776369	2248.153214	564.6379257	428.4177263	179.8938511	3210.013401	1257.17726	1082.482653	43.67365171	43.67365171
397.9100669	1616.202617	3406.306671	2914.077181	5627.725588	12867.72382	4486.067569	842.9798453	162.1115087	184.7088705	2007.235226	643.5335649	633.708625	24.56234981	12.7724219
616.6520703	1676.084086	3641.595063	1884.514646	9738.998897	1504.371863	8864.238517	1271.102429	268.9078205	596.1329997	3907.26303	1455.774064	2930.987248	275.387527	46.43789671
506.9177982	1042.603925	4538.451911	3121.859708	7779.352981	4981.880983	6672.268318	1310.446989	35.71240848	406.7246522	3369.862545	953.3229042	993.0033581	199.3942807	12.89614751
396.3299674	1409.718226	3750.419468	1101.679588	8834.03801	10144.67374	4540.136359	1129.148001	155.9813485	382.5957606	3234.405699	1006.521155	1158.578444	19.62029541	33.3545022
338.9155591	1478.102828	2054.063374	1437.942314	4825.138856	5203.235404	5736.096861	867.8589172	144.9696611	657.2610987	2616.310573	972.6680641	1614.256767	282.1031243	29.38574212
487.0713468	1384.457661	5991.735654	2443.885221	4679.296324	1750.234976	2069.579419	1066.060827	288.0733258	323.1348819	2507.375066	691.7550257	640.584106	34.11394647	61.59462557
268.2258184	851.8380387	2990.767001	573.7870987	6652.589804	1500.296061	15855.78116	836.1178442	189.624846	1404.00987	3624.487341	634.7028523	756.5343596	3847.5176	111.0238736
289.9271304	873.0635851	2575.42817	2483.52674	5473.605409	4533.803881	3642.141196	1002.163213	227.5654457	277.8924193	1514.185466	592.9830365	612.6762001	67.83200786	19.69316357
698.4214921	1269.764838	8855.821859	6156.682032	8030.322221	1417.175488	6094.667897	1928.537948	287.7049232	335.4863062	3333.513934	1258.581961	1347.028351	186.0424062	41.68163199
431.1368203	1966.157513	564.9628467	479.6035434	1285.453238	1168.988426	1993.646102	575.0902217	125.8688032	248.8440708	1584.934183	300.2043296	1573.360041	116.4648122	109.9543569
404.845666	1347.343513	6148.72743	4625.736591	11395.65578	7026.96406	11614.14392	1938.546708	198.1387519	967.1313132	3210.918801	1235.957404	1120.287213	517.3027954	62.11917626
423.6838301	1499.265263	2841.757586	1737.401373	4934.378658	5262.808044	5997.061051	1054.744523	679.6801489	477.2644549	2867.555665	713.4160979	835.4608546	296.6779044	20.83690968
215.9122916	964.4082359	2185.992001	147.7799685	5751.903449	48852.79491	3038.125846	534.502873	13288.68184	986.4792701	1905.785827	540.2605341	211.1142407	64.29388239	1153.451442
338.9564431	998.3245999	3237.085545	753.1220666	7979.38496	698.5181411	10800.24436	960.2048783	58.72497646	1013.778541	2898.129102	983.9009215	1102.381137	360.5919607	53.57366274
229.046808	726.3194832	1938.861138	299.3681964	5102.319025	2805.823398	3624.565277	468.1395286	72.33057094	328.501343	1705.795965	593.7134364	572.6170199	104.4774914	26.11937284
397.5144812	1062.485935	5223.277352	1171.566426	5774.972911	1038.362365	7185.677337	909.3537076	283.1897359	831.738743	6452.530576	2141.753484	1937.227564	194.0374117	70.27300855
324.4512187	1032.802793	1811.68724	1477.159897	4582.621562	1404.611798	9153.151773	737.5723358	14.10657473	177.3397966	1685.73568	781.9072849	652.9328874	58.44152387	8.060899844
343.1926103	1269.90879	1275.676733	731.5674409	5279.59052	3842.411382	6513.930328	767.136423	15.38118141	278.7839131	2709.010576	600.8273989	975.7436959	335.5020196	75.94458323
129.0340915	429.1133739	2216.585633	642.1696645	3938.04045	233.0615761	5625.486282	463.1223593	74.01955634	749.1979419	2808.742084	667.1762714	487.1287019	224.0591976	17.00449267
353.6052954	2131.231916	1560.023362	604.0090454	4256.863749	5723.285709	2964.8444	460.0068889	80.00119806	165.60248	1915.228682	490.4073441	1107.216581	36.80055111	3.200047923
246.1507994	2701.050718	1542.955848	408.87465	3596.444901	3029.802457	2425.98959	421.2647909	161.0718318	379.9643212	1767.660103	531.9500497	492.3015988	47.90854485	9.086103333
247.4346475	2113.109132	1082.849886	507.8014193	3112.33128	4478.825761	5646.165527	669.8840456	228.4675316	283.6445959	2398.478011	673.3326121	1664.795485	143.977652	34.48566515
557.2685534	916.831694	8541.525605	2660.332724	14197.85574	5421.69074	5285.904056	897.2784115	725.6440422	444.2940318	3724.90033	961.3697266	1455.633258	148.8222063	67.35019553
137.861017	507.7880794	3528.093194	1116.674238	3634.935482	2487.242516	2575.703335	483.6624014	121.7772317	259.6382487	1356.782176	419.3272601	892.6500853	62.03745766	58.59093224
284.0591413	743.7579044	3168.018363	1565.577863	8133.63236	7977.508252	5430.733736	972.5230908	280.8065557	672.2010215	3086.703723	998.5437755	1863.731542	172.3870362	411.9941745
179.6101385	721.0689951	2510.161204	265.4725462	4528.803932	102.509201	6060.308917	665.871733	144.5642578	869.137841	1200.321413	664.995586	658.8625569	584.3900604	118.2798473
237.3499993	1745.64207	4338.578854	369.0120743	5790.444321	9165.292613	3906.870554	927.0084876	494.4045267	616.2143377	2575.919237	946.7130159	708.4673563	206.8975465	182.7147164
643.8701563	1481.35963	5045.559018	5802.851142	5868.154698	9715.336166	5354.891656	1603.947009	505.2433077	470.8730147	4568.957622	1115.888847	847.8005617	87.07140904	63.01220391
158.5938301	466.3910661	1384.565872	685.5009629	2698.181872	6801.797225	3098.839969	372.4868246	204.5025704	181.5482002	1181.106682	405.8749993	379.7904878	34.43155521	17.73746784
541.0385838	1561.13269	5682.480971	1984.508514	4660.285743	8337.246993	4231.657118	916.0886313	380.3028492	400.263496	3165.338355	996.9817787	857.2572513	136.5728464	299.4097017
422.3509101	939.2426565	5682.726357	264.097771	4894.543515	13778.29928	2906.103099	1070.777733	4301.608053	1146.821449	2026.462274	923.8283897	425.4337634	64.73992052	675.1448855
117.4271339	536.809755	1855.151359	364.1227934	2337.688069	4932.926407	1717.00179	300.9687046	444.0521871	308.8629657	1312.420908	424.3165343	371.0302719	69.07478466	63.15408883
291.3815224	1362.815662	1648.126736	253.9470907	4791.607257	10462.41779	2365.451386	413.8022314	636.3853388	305.5459019	1928.379103	713.2776849	2162.091366	26.30527632	224.6065902
309.834664	1990.277499	3210.311814	460.4085194	3670.720334	7571.162319	4921.641594	782.7910047	1724.842818	472.9563407	3135.024887	700.7475578	887.99966	196.9042724	73.35649366
287.7618187	840.2244044	1784.724869	132.3503835	4852.847395	242.6423698	6107.168076	610.6165421	25.06636051	271.719348	1999.292915	787.0837201	1110.941098	275.7299656	3.007963262
209.4628836	885.9578424	3330.359627	467.0320753	8355.464403	1093.416296	10269.69458	994.1970358	193.4274475	1837.059644	2604.756145	1090.409652	1027.270123	155.3432868	328.7264393
178.9531227	637.9628272	2298.081626	2569.038897	8844.530606	431.7117705	2984.574114	883.6442329	111.2138051	606.6207548	3639.724529	909.9311323	667.2828303	23.2537956	104.1365629
247.804528	1303.621256	3521.154084	3650.351317	4011.468172	1601.198489	18236.93067	966.8612568	38.12377354	1446.585407	3543.392952	1410.579621	950.9763511	1103.471445	43.41874209
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470.2775459	1261.538179	3619.324242	1611.313768	6781.167606	6364.209509	7839.025487	1068.521771	1101.57983	767.8000749	3011.482516	755.0034069	1078.119272	431.8875421	117.3027892
535.0772955	2171.593943	4018.473641	677.4768983	6218.11599	5782.286903	6043.352842	1296.699414	79.83008038	510.2652435	3542.729513	1389.474913	2766.004407	560.9681324	44.23017967
501.4816137	1697.724213	9191.740077	2362.187351	13029.11917	6529.708511	3823.797304	2477.110221	82.53551558	809.6838554	6845.224026	1607.875424	1556.682509	43.87964119	30.29784749
482.6771137	1936.844181	4101.732845	2428.724883	4687.69468	7980.534312	3673.254645	886.6124101	44.99532416	334.3970682	4293.985594	856.956401	927.5172502	150.3252875	14.31669405
381.2890891	1167.948683	3280.089559	1734.865355	4072.769507	4297.529391	4604.567447	621.0998583	41.13908593	547.8522175	2873.715661	794.6867331	643.1744898	327.1059028	16.05427744
215.6282926	355.8913567	3533.791825	4916.534419	7651.66417	113.0478427	2860.738465	1385.882813	62.80435707	161.1978498	1867.382884	554.7718208	678.2870564	8.373914276	10.46739285
167.8646452	752.9651135	2340.401873	360.9575029	5440.561072	5572.52403	4826.351127	497.7720403	214.4398068	383.2747678	2054.158692	841.2638575	1929.958261	85.38779638	444.4046675
272.0384019	1153.206269	2850.489341	278.9379265	6618.615465	54192.80946	2501.570521	685.0242365	14955.21258	1196.57471	2100.412443	584.4883054	250.3541814	23.6555132	1273.455128
316.5745	2043.155161	2377.432841	618.5699113	5935.771876	25079.15686	4490.359356	1101.762569	5258.885609	641.479908	3494.815862	1039.28076	1088.224844	199.9417895	349.8981316
184.6500127	1023.580128	2307.591488	644.6740328	10574.14842	7976.240144	9199.413061	1424.900387	1135.650945	476.0341368	2558.41665	899.768559	1165.536496	352.2225676	19.21214005
289.1243325	1141.28026	2757.333108	561.0026523	5646.547491	6625.512336	6033.061073	676.6523853	1296.494375	826.794144	1968.074404	553.9013529	524.481684	74.05640799	76.08535067
384.2088249	1201.147692	5390.806296	865.460085	6320.631262	2457.748205	4356.017064	1029.838087	40.59938614	286.1761608	3059.807394	1052.613353	851.59688	28.71663898	15.84366288
602.77897	1173.266209	3923.44526	1397.155541	7030.986129	5260.322904	4618.793858	1138.821697	1295.974786	403.6466317	3273.305085	961.217179	1384.238849	105.4863198	92.56962754
317.5223314	2086.703096	727.1708604	512.5078758	1694.04872	2865.750845	2493.668338	568.8569093	497.3025811	178.8858205	2467.729894	406.9652417	1694.943149	63.50446629	176.2025332
185.8236658	1025.435307	1378.597562	780.2648165	4810.011537	145.934816	7359.979223	600.2785433	19.45797547	195.5526535	2501.322747	537.0401231	874.6359975	214.0377302	4.864493868
236.5639533	1158.441038	3424.759828	677.1868892	3720.916227	562.5165759	5417.495113	445.1375152	16.25248534	1699.287634	2918.224034	618.4973588	636.5556758	557.0990808	13.54373778
164.5175465	817.2807147	2303.24565	1979.517575	5054.403589	6739.912387	3581.175495	811.9736971	83.85087852	355.5701811	2366.929862	641.0877294	1095.368438	147.5350901	332.2193035
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267.7129607	768.8965266	4107.007358	2162.456628	6591.134598	3020.590808	10327.70193	707.6753457	46.69412105	623.6259278	3288.303769	841.531826	1211.971853	485.6188589	397.4188525
238.8352958	1107.134282	1858.669346	1094.3964	5569.639097	5208.732428	5221.47031	1032.829968	35.02917671	200.6216484	3083.629041	1180.377106	2001.970524	52.01301997	5.307451017
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178.4800365	1145.726686	1740.660141	783.0091923	2751.087444	5079.964049	2752.047014	530.642259	78.68474726	205.347999	1922.978458	489.3807452	1134.211845	88.28044815	108.43142
493.4772599	926.5935675	4839.465832	2621.995055	9706.464731	6180.114354	7056.93661	1173.332197	493.4772599	427.8214872	2429.263593	1313.115456	1229.457294	59.30198832	293.3330494
268.8968154	1054.438074	3734.34229	522.6870681	9414.409851	9219.03164	10514.16761	1190.397138	278.9678572	817.7685921	3102.887971	1300.171493	2266.991503	373.6356498	775.4702166
211.6044954	1167.537084	1336.449445	135.5011242	4015.844963	11156.56859	5864.600028	405.5752828	2459.438214	644.0943851	2256.186528	390.7258446	918.8089931	407.4314626	297.9168553
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439.9205495	1866.114589	4250.200147	649.744406	6720.44526	2687.164462	5068.209095	1132.237912	104.4051074	368.9656221	2790.555928	1333.952634	1052.160208	174.3463929	17.23191092
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232.8770076	667.0729236	3333.188197	6274.620681	8754.651991	4195.050767	3866.411252	1454.937192	138.2027101	428.7548644	2285.241663	563.6929436	771.5411139	106.6446109	17.41136505
309.9545867	1312.463953	3536.388112	739.0479676	5840.706742	2144.498296	3771.759876	813.63079	47.46179608	320.6092756	3148.944879	838.8146002	951.1731378	37.77571525	7.748864667
564.8123005	1243.02321	4369.117544	1462.187828	11237.36596	7445.054803	4627.535528	1541.784928	428.5158959	562.631558	3701.810348	1521.067875	2209.092125	56.6993043	43.61484946
153.4927549	722.4913748	1896.662066	834.9223736	6260.940141	13962.95239	4432.714335	577.7975676	2511.610747	839.8106779	1235.763326	492.7410729	676.5413144	131.984216	119.2746248
284.1582128	1666.77877	945.7803201	682.8279441	991.5849275	622.6033677	2292.775072	250.2288739	19.50936983	90.76098139	2101.922541	302.8193491	1161.231622	99.2433161	3.392933884
80.79626006	524.236199	456.5928185	283.7264016	704.618547	266.8155565	3325.799542	143.7421836	17.85033652	148.4396406	877.4849639	131.5287954	249.9047113	436.8634991	12.21338815
515.2127006	1334.915099	4981.733764	3337.287747	10096.55574	18188.72234	11059.42879	1563.786494	217.780711	371.0338039	3386.691705	1058.656234	1588.992595	220.8054431	36.29678517

Surv

ENSG00000102317	ENSG00000102699	ENSG00000102786	ENSG00000102898	ENSG00000103005	ENSG00000103342	ENSG00000103356	ENSG00000103495	ENSG00000103510	ENSG00000103707	ENSG00000104129	ENSG00000104177	ENSG00000104299	ENSG00000104529	ENSG00000104626
4816.995338	2098.406988	758.1201231	2560.01308	1673.729384	3625.508554	801.5654024	1532.532226	1035.083778	338.8731782	339.9593102	1637.887028	620.1813614	1846.424369	1016.619535
4562.584278	1093.503689	765.2530376	5569.286122	2846.501846	4794.055861	1236.177984	3950.980481	1738.032323	241.4488072	611.6037967	2255.850219	983.7542308	3735.472455	880.9888294
5547.537408	4253.829481	1140.773978	2781.132191	1964.351616	8251.636202	2323.463186	4543.837563	3963.821399	1044.482232	849.6330521	3986.47828	2435.614749	4207.382874	1655.085185
13003.16474	2200.967228	1819.590943	6487.553544	2528.306547	7933.042409	2260.200058	3544.617194	2166.674538	726.3815357	688.9713279	4704.333637	1079.700165	4676.275981	1013.193129
8351.018022	715.3660927	449.6042553	3787.34432	2047.985485	4170.269978	1093.528994	4901.829445	2571.888749	518.1879553	461.034872	1232.601497	1417.396466	5240.937739	656.3079066
7798.537607	2865.379872	1271.245025	3235.313244	2105.198869	6586.09702	1608.034077	3417.072415	3140.156972	684.2698202	485.4039037	3409.588214	1216.717274	3033.239812	1244.515736
1343.941177	263.8359744	433.7497572	628.4248451	268.959003	891.4069813	234.8054788	515.7182152	287.7434413	68.30704838	139.1756111	109.2912774	249.3207266	1460.916997	245.0515361
4302.718911	2659.784093	797.7193365	2566.95072	2112.498974	5419.957765	1253.250541	2288.4506	1797.297287	415.5912646	405.8761441	1710.940661	939.1283122	3247.009153	1001.736866
6562.783685	2656.432206	907.4885589	4569.516195	2063.074302	4463.862641	1046.158848	3522.414012	1883.840595	498.0810386	608.4512687	1711.210235	1072.572237	4654.416372	1456.509704
7963.591306	2142.474849	925.3881975	5376.304256	2462.672576	6840.384617	946.6229509	2918.660964	1613.282443	637.0425997	609.1021348	4006.103858	1243.909497	3730.610874	1231.615693
13317.39916	3610.204937	1567.923614	6853.307871	3142.481602	6244.051234	1353.412203	2038.964136	2492.312995	889.0060549	849.1998136	2484.572892	1089.14299	3166.807638	1246.156497
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10225.19544	1377.507461	724.4454505	7555.068933	2147.291042	4150.850564	620.264214	2155.972812	1908.060055	466.8862824	373.3160977	2298.739692	816.0863531	2462.728675	826.6974049
8364.151568	4557.586777	2015.49778	6191.004858	2985.476613	10528.54	2038.488249	3162.83166	2827.827683	585.7095666	749.9272021	6296.104145	1476.863935	4529.122387	1939.957667
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12514.44042	4540.765473	1355.421588	7105.132344	3556.692265	10297.69689	2133.19014	3741.334932	2768.60848	616.8509207	747.8543771	3694.916384	1493.645708	4836.812654	2465.340636
5424.86018	1268.63262	806.6174296	5909.785215	3672.257102	13378.39441	2103.887355	5174.761048	2482.85436	379.9215822	600.4288322	3751.48698	1614.189436	5486.907675	1441.411028
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897.0400371	499.7936722	250.892441	1068.284084	502.7804869	2131.590144	381.3166861	527.67061	513.7321411	165.2704175	188.1693308	1515.310695	646.1475961	1358.005117	541.609079
7990.948044	1572.914358	1723.312544	7984.681453	4143.261128	8259.367028	1612.602768	4311.414655	3710.866344	524.304786	1144.697302	10134.12219	1640.802428	7148.091545	1385.961058
14362.18896	1492.405781	721.4694612	3826.681489	1055.604089	3402.013177	577.7355711	841.8699275	869.870036	488.1352241	384.5348228	1582.006128	532.9353976	2796.277498	1264.671565
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4887.512226	558.4859471	344.6192777	1686.607288	813.909647	1678.4986	386.1763082	915.2682581	777.420547	180.4183277	211.8394972	812.8960609	303.0622471	1462.604758	326.3747277
4388.31311	562.027806	292.2544591	2761.579828	718.4963472	1749.929777	250.8892126	1000.859117	925.3225799	339.9144171	236.5013008	414.5517097	316.5340604	1965.748454	271.5718359
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6694.237822	4263.430914	1216.405436	5060.006137	3569.057794	6344.546309	1373.716518	1937.832053	1899.75676	545.0778888	625.2364019	1295.561967	1261.494599	4474.848992	1395.760109
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1520.469706	360.738891	182.8538731	1167.680983	664.8328323	979.858255	195.7728968	656.8826639	302.1063991	107.3272734	122.2338391	356.7638068	276.2683518	1029.546807	296.1437728
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4058.531047	1889.715598	702.7138563	2849.466076	1713.209763	6369.654327	945.4093796	2067.324594	1280.770466	444.5740723	469.9467861	2077.253048	857.156462	2727.015153	1056.828688
6318.721013	2692.086667	649.3422493	7645.820812	2404.776401	4665.371461	635.6608081	2424.772354	2217.445898	294.6771958	266.2618948	1279.740965	1191.337806	3208.824178	986.1161874
2570.669443	1251.425137	558.7007708	6979.72278	1508.976504	3574.231665	624.0978264	1445.19419	1659.954891	512.6806206	475.541552	1416.128832	807.3710561	3359.470964	1265.150445
13584.29274	2805.473954	1778.433635	9075.932844	3865.183549	9208.651772	3030.075217	6110.175261	2827.934081	700.3475738	1050.521361	4782.985981	1580.376158	6422.575199	1950.968241
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7262.46998	2442.677292	1317.198084	5801.234398	2956.245474	7893.254884	1547.658081	2226.124364	2850.949096	573.1699054	647.6720595	5001.577944	1016.209382	5890.636982	868.1984355
5954.600337	3305.857817	1455.185879	5692.971099	2906.315492	7327.646805	1509.945487	3055.383313	2176.187385	630.7495589	552.6664141	2897.18889	1190.514441	3378.870627	1469.382815
6737.328418	1880.600731	817.6982475	5157.707994	1278.640117	4928.289438	1242.859241	1822.719903	1628.029844	429.3705084	435.6847805	3305.521487	623.0081886	2753.022671	891.3647563
12788.12952	2414.650753	829.2924876	7719.010539	2041.194534	6011.912868	1115.791989	1750.118362	2020.141854	767.9651182	438.4449245	2140.050592	834.7844908	4625.182053	1809.615064
5824.414624	1469.60533	1006.394039	4963.423233	2188.309845	5714.324048	1590.08181	2760.573122	2033.559885	441.4008943	595.1122646	2570.51109	627.3085651	3093.960621	557.7230123
3740.771419	1571.680722	687.3426591	4571.578122	2370.368609	6188.225186	676.6363871	2377.863	1796.512433	371.5076366	287.9987154	2402.487425	1143.429844	4224.694911	1231.221274
8517.237014	2650.461757	1388.724117	4985.99705	3205.13869	8421.743183	1559.393943	4594.878699	2037.87899	526.2319625	385.0229996	5309.050649	765.9824319	3485.524833	524.2001788
3554.228366	507.173022	279.1962379	2063.842694	621.6635656	2457.529475	475.0353256	1504.445915	673.8873223	146.62824	158.6798762	1245.335737	488.0912648	1626.970883	361.549085
7111.202232	844.2069689	524.732567	4055.504066	1368.111882	3105.357399	768.062811	3105.357399	1388.803229	240.0196284	406.3780605	1387.975575	886.4173174	5489.000606	563.6322999
9138.128608	2478.802312	1233.562435	4772.888734	2562.667572	5591.37121	1064.770329	2047.798569	1366.260632	494.6988768	685.7842798	1090.248383	907.6556644	3831.262331	1248.424633
5528.495242	1629.09599	697.4535248	4070.183327	1934.871069	4389.252975	779.266255	3026.048358	1681.251605	314.9790112	374.2932406	1409.224277	660.6377963	3191.719136	694.3855475
7940.700765	5026.58891	1652.948375	4690.128107	2590.070746	7119.871893	1454.23327	2547.166348	1967.956979	501.3040153	538.5630975	4551.253346	1094.062141	3503.482791	2374.419694
3630.248452	774.3768973	1434.595038	3959.4062	1553.510409	5535.74836	1358.489201	2605.673614	2068.176136	429.9979823	512.7630806	2986.202802	436.6572431	2556.204819	322.4984867
7308.610908	6787.234941	1417.685646	5584.538987	3156.297932	7808.176326	782.0639496	4264.48151	2453.167396	659.5094396	661.5866347	3389.982379	1075.987054	4058.839197	2181.05484
7790.677113	1927.1731	839.0123774	5567.50726	3043.016973	8776.62313	1516.184804	2850.299663	2202.939859	558.9866727	373.7225183	2365.844546	1316.014338	4731.689093	1393.740104
13251.87319	3461.519109	1727.648543	5489.898791	3454.260082	9065.488332	2139.339102	5150.798507	2572.806743	667.8305291	870.0462949	6241.726638	1245.441717	5237.906836	2537.54861
10251.70655	2745.767653	1080.233122	5717.459548	1980.77766	6318.523114	1301.954122	3160.837772	2712.141719	510.6938688	634.6894995	3304.798801	1011.930444	4473.299999	1161.145525
5156.610448	1930.999315	843.3174175	2680.730336	820.4407428	6101.833053	1671.037102	2297.02611	2403.090693	518.8845763	666.543113	2860.624187	663.4235665	2438.445554	1275.894539
5771.16971	1702.662089	1050.286078	4895.767563	2168.364241	4291.533758	1225.170008	3016.256556	1707.574559	395.9450789	671.0433967	2357.985581	920.5968707	5093.248856	840.0323634
9641.803299	2478.487743	817.5229724	5408.39504	2817.592384	7602.855648	2304.615618	5987.248823	3848.945672	670.6496246	801.3237061	3387.806558	1361.81832	5219.4036	1740.881151
8764.420248	3559.336712	1583.250109	5957.028137	3152.61206	7671.223744	1873.909434	4098.990885	1891.765638	473.1894124	679.5277725	3075.235175	1390.799908	6092.933692	2125.880316
12813.03392	3106.873779	1765.826587	5854.696152	2735.069181	7897.168904	1842.345739	3262.855127	1750.130351	570.9505966	658.2609112	3250.101935	1037.913627	4957.067636	1752.092381
9912.790341	2722.099245	875.6951151	5310.0036	3287.285018	6018.199985	1664.212529	3014.977141	3116.847714	694.4830387	703.2987613	1736.697359	1461.450908	5244.375443	1998.230464
6546.087284	1574.927195	1002.570982	6499.654412	2416.404542	4742.786169	929.6050414	4367.532758	2884.523696	626.3699616	784.6207688	4009.33632	867.0628062	5859.070306	934.3430895
4724.900955	5893.107908	1333.268995	3269.800453	4281.787973	6568.093758	945.1766934	1944.391555	1548.439157	450.9730793	429.3578119	1373.551993	1137.749076	3521.323565	1051.288006
5690.230208	1436.506876	484.6706368	2722.032832	2164.059864	5610.363489	1105.005289	2828.157102	1885.07338	583.1364547	536.0916751	2299.72388	893.8508133	2983.514281	2074.346563
13991.81222	5077.026101	1482.239498	4735.440044	2699.139827	8548.801058	2236.575375	3492.10746	2980.745	729.9368723	957.6609105	7133.658821	1077.622681	6373.223193	2888.232109
6048.213011	1019.971337	401.4780793	7697.528364	1167.541658	2308.31811	344.3307491	2212.108048	1949.519682	467.3060166	362.4153473	1302.814452	721.9371588	2298.190735	504.9219808
15062.82922	3406.915512	1695.425104	3769.991387	2465.488686	7226.173832	2033.867513	4128.783181	2747.167019	613.6946207	868.5974474	3320.162869	1350.556574	5759.947068	1259.51985
9027.343058	2351.594092	1251.206814	6170.701965	2863.58673	6159.787394	1089.472706	3054.095618	1854.484961	584.4257047	599.3092116	2460.739809	1064.666861	4023.508035	1419.886559
4610.926939	639.1003832	1237.897139	4097.53549	1526.739804	5082.09554	1819.420911	2576.553347	1766.642351	445.2591258	501.8761267	3591.820922	423.1880916	2138.971102	231.2660546
8506.879485	3813.002419	1274.435016	5077.134807	3278.296055	6846.09594	1546.42438	3364.838125	1792.657176	438.8919294	595.4918666	2078.039957	1415.581012	4292.074596	1248.678447
8338.107483	2121.696748	645.9521821	3947.039072	1982.058562	4340.838848	1153.27077	2168.912537	1274.826313	327.4967517	420.9237392	1809.268865	826.7786095	3277.981291	1033.72441
14702.79155	4629.627757	1678.161398	5892.444209	3192.70206	9610.620557	956.5519969	4023.391952	1681.307951	611.4800595	637.7013313	4331.754109	1251.279092	3042.716385	3058.449148
2777.987609	1682.712843	754.7017479	3054.073429	1581.951594	4190.660307	959.2470815	3631.43538	1417.71076	452.4180038	508.8443027	2215.739845	804.0747595	4018.358572	920.9578072
7796.336329	2433.110635	707.534345	4746.05579	2513.861837	4830.652287	1075.721375	2411.000186	1410.262071	418.1758697	326.850105	1125.710215	643.1256478	4194.255907	1317.974982
4819.273276	3362.888492	849.2243694	3133.827973	2745.725435	5188.370794	570.1506367	739.1952991	876.2315048	417.1102026	475.1255306	1200.31713	890.2352047	2266.598847	1248.329815
3166.447419	588.0088058	412.806182	4792.071764	1136.017013	3420.851229	1247.218678	3859.257795	1572.823554	418.4062659	580.8086979	2200.832959	552.8082786	6347.295054	830.4124359
7739.708021	1392.651838	455.9571854	4566.179929	1565.287801	2894.336916	671.5456372	1581.807989	877.2219763	360.1400957	479.0854485	705.4120224	552.6002845	5187.338994	835.0954972
10931.09371	2186.391171	609.5341315	6825.575275	1582.89203	4232.253256	909.5594184	3115.779846	2054.483501	687.1268781	509.5257026	1431.155104	1090.60916	6352.259521	1183.720456
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2524.005453	1166.074436	511.2346048	2741.136555	1093.697402	2030.003476	541.1044918	968.4736446	1436.052261	197.6007911	359.5874861	1949.584549	449.1971472	1794.490905	660.5840399
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11264.6222	4880.138885	983.9131002	3115.578793	2425.174943	4258.95065	877.8993112	2749.34934	850.7387536	697.4130256	612.426765	106.8899361	2043.174844	5907.859336	1928.399585
14853.63165	1511.874712	1126.740751	7348.893373	3307.673763	9383.833744	1246.759241	6188.117528	2021.505465	678.0149035	496.1958475	2837.452067	1619.353957	12436.2443	1383.795279
11805.04998	3816.248204	1500.836129	6882.078343	4431.476449	8736.928491	2265.002311	2674.008799	2138.977904	1153.69617	836.3437973	3127.696667	1135.365347	4009.867521	3149.464519
4612.785018	1000.601862	464.3043052	2816.083864	1680.885923	3213.61182	701.1516698	1670.452118	856.6153585	217.0231359	293.1899095	1496.207581	473.6947293	1905.212722	672.9803974
7541.972803	2339.597915	923.4425538	5113.077257	1940.384979	8031.533929	1451.874413	3638.090516	2240.845241	359.2916421	746.9484138	5918.857051	1318.453248	4742.229451	1298.492601
4890.433044	1781.889241	951.5740699	2802.313703	1976.109003	7380.35094	1286.577468	5720.748215	2354.272348	412.0747322	628.9020851	5282.983038	1114.965298	3140.399954	894.0274739
4945.754581	764.7565444	446.0257524	2909.035217	1592.667178	3007.71348	563.4528863	2562.674511	1087.434467	259.5238338	228.933572	1582.799351	725.2852389	2223.221283	458.8539266
13636.25055	1081.551553	576.6925963	4626.693409	3132.351365	5111.317538	909.555516	4050.000813	1038.046673	327.8042127	368.2738685	2260.230281	1167.549572	3048.376829	1203.972263
8769.96186	1709.399346	887.99966	7244.918966	2411.11212	6093.415059	953.6344175	2215.173065	1697.816741	554.0345705	343.6172598	2042.399218	1184.321286	3255.677014	747.0779749
4113.891087	2119.611445	514.3617177	3281.687918	2195.813181	5615.867409	1194.161415	1750.634618	1606.252382	373.9900989	362.9609002	1597.228492	794.1023011	2063.462797	1150.04462
6891.228647	2967.557886	1663.676491	7346.234146	4949.938669	7888.432328	1965.343132	5032.120279	3011.655335	423.9368409	521.151672	2893.393994	2550.636549	5837.900941	1368.023139
9069.991319	1505.430507	637.9628272	7926.511197	3092.754815	4642.670844	1405.338082	3435.495542	3702.408674	516.6386762	735.0221479	2379.975428	1421.514635	5800.305451	1546.882925
9997.959611	3268.054588	1428.582514	5516.298233	3309.355342	7556.979111	1120.415345	3768.958612	1500.594086	697.8768546	796.3632695	946.7403763	948.8583637	4189.379115	2032.208929
6458.717926	3264.691118	1238.980901	6283.470438	2595.735651	6633.023224	1127.802386	3889.363618	2230.165621	609.5974469	683.0883292	2881.219463	1291.743585	4382.129406	4346.326155
9200.80423	3671.577302	1511.073203	4858.468251	3039.20863	7907.274382	896.833143	1780.869618	2487.88552	659.0283976	554.5222763	3062.669188	1132.50511	3968.033442	2316.196893
12297.06873	3269.796941	1433.705092	7567.675863	3448.875229	8647.539518	1539.426009	4670.059702	3061.591461	915.8883546	562.0469172	2934.294846	1495.19583	4636.617371	1636.516648
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8477.649738	1753.360773	659.8147902	4503.235943	1765.004564	5329.945063	947.0282871	2092.001011	1438.008116	327.9667634	453.1375103	2229.785865	803.4215387	3397.075854	848.0560686
4819.810815	701.7802251	1383.847522	4502.43268	1764.307027	5936.548168	2011.704269	2963.838675	2211.790485	517.4643514	647.569674	4257.992377	542.1055109	2540.996377	273.0240482
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10789.53442	4383.743474	1883.415425	5307.627066	2946.921296	9056.633796	2637.96987	4873.906795	1939.858474	639.6878889	879.3232901	4572.8772	2139.884718	3993.593276	3714.348717
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3348.717579	2457.542302	918.4164423	3576.375892	2261.01675	3310.774527	529.2569329	1005.977332	1098.402715	549.6878071	473.8017028	1388.32655	706.3245097	4151.359067	861.9883134
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4622.789836	2197.284721	755.7810248	5263.929919	2089.01272	5957.083021	1490.332246	3050.722844	2576.236724	808.855535	712.2599265	2673.893822	1115.626204	4421.106697	1339.600637
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7966.69935	2224.891478	1039.668915	5726.685415	2653.991194	7168.989746	1256.10908	5278.682628	2039.641381	355.3777382	580.3242853	4207.823645	1289.189455	4342.035451	1291.079762
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6768.559583	1746.665177	820.4314646	4778.734854	2051.078661	4577.339348	848.2741613	1703.973042	1163.824725	352.674159	331.3280915	1348.514613	762.8898913	2894.712373	511.3775305
4928.020899	4291.842957	1814.207609	5795.822112	3237.485444	9453.583265	2091.94592	5414.324961	3979.518365	985.1849522	1019.771232	4146.161352	1605.641858	4717.35901	2378.068784
13405.41306	4115.385785	1637.031538	5851.754221	2596.95034	7779.700961	2079.993013	3262.913015	2256.366689	723.7402588	956.8778772	4214.722684	1417.071263	4618.152128	2578.704788
12086.89531	4473.64041	2001.03888	7913.1522	3331.962413	9626.703323	2215.103504	5710.458239	2630.823209	701.1392043	767.323436	4487.084082	1576.012017	6309.21871	2587.389807
8456.265415	4491.714835	962.8615772	5600.136691	2340.766654	7654.700363	1603.130103	4830.044133	2147.997635	683.5432035	601.9114252	2819.738654	791.7298975	3545.573019	2695.815713
12260.79797	5100.716869	1565.357795	4919.982807	2481.077044	8012.543428	1918.793295	6077.684884	3682.958558	551.23889	466.8963276	5920.044618	1943.895248	6320.67179	2044.30306
9081.949625	1172.329051	993.7432986	4749.804926	2191.035949	6880.352152	1745.531707	5027.284939	2077.739612	245.7954439	474.3083957	2542.446623	1350.914803	8386.809385	751.7884085
13641.66322	2300.606516	1067.027525	7190.99682	1850.368487	5296.702672	1110.038069	3703.482328	1993.126887	689.9989313	916.033064	3237.687293	1253.711586	11373.08583	704.6408185
6458.879033	816.5015489	593.398518	3864.959146	1380.276428	3302.110006	643.3884087	5361.878652	1296.959943	324.0085512	499.8989075	1935.719658	498.9731688	4501.867384	670.2348315
9689.424652	1964.21962	887.9796177	6784.991319	2532.265405	4875.182215	1144.797252	3402.833657	2735.760734	685.5724989	736.7183838	4214.638553	1063.181479	5426.904845	1280.823542
6088.670412	3215.778837	1170.078565	6310.481663	2672.389702	7066.964576	1815.171548	3989.696695	2367.278156	493.9901225	736.1421433	3249.68012	1037.379257	4448.816927	2368.246764
8232.302835	3582.959883	1236.480982	5758.2505	3592.773224	9280.149593	1897.245951	5891.275791	3618.942134	537.5530196	653.1323706	3386.69306	1449.103373	4300.424157	1334.614393
6476.02553	1729.48206	824.1681041	4831.599965	1550.570122	4506.038899	825.145765	2120.546403	1897.639727	546.5124202	615.9263411	1722.638433	878.9171122	4259.668363	557.2666896
13106.05536	1158.686921	706.5784813	7690.932881	641.264504	3487.087799	334.2039876	419.8755681	1026.3625	430.0543698	285.8546797	1777.049122	559.8340908	1706.645744	1683.74344
3306.070223	790.1122641	245.2072544	1873.345844	701.8000728	1205.367461	198.2326846	430.2870594	495.1119657	133.4077782	143.7421836	202.9301415	202.9301415	864.3320843	259.2996253
11849.89211	3975.50622	1738.212712	6614.080853	2991.460044	8423.878891	2074.966219	3731.511164	2465.156659	627.1277882	827.7683506	3853.508692	1395.409741	6615.089097	2645.632341

Surv

ENSG00000104679	ENSG00000104859	ENSG00000104872	ENSG00000105171	ENSG00000105193	ENSG00000105202	ENSG00000105258	ENSG00000105278	ENSG00000105298	ENSG00000105323	ENSG00000105364	ENSG00000105373	ENSG00000105576	ENSG00000105671	ENSG00000105865
1251,224043	808,0821943	730,9668236	853,6997375	7705,020277	1499,948266	552,8411786	8,689055852	631,0426813	6778,549697	1029,653118	1649,83448	4544,376211	1355,492713	524,6017471
2739,745556	1656,21909	1967,508462	968,7883957	19853,67692	3307,449569	1479,622236	289,3394797	1444,701954	10544,92745	2462,378744	6345,514106	8055,610203	3317,426793	419,0433843
4424,888935	1565,590504	3235,402662	2842,30577	18122,10658	3613,772582	2190,92043	6,797064417	1588,247385	16290,29772	3440,447439	4259,493701	9430,926878	3660,219188	826,9761707
2993,8558	2328,785439	2578,186824	2454,525304	34727,06461	5053,495577	2123,029295	34,29269053	1900,646393	18627,16599	4583,789634	7476,845708	11866,3101	5569,96428	593,3674634
3926,416823	2687,147467	2487,111675	1397,392887	33792,71305	3122,463451	2510,92546	894,4457537	1638,388388	14823,60471	2550,932618	7831,877515	9510,273062	3865,453534	589,6293094
2587,395258	1150,428635	2296,580584	1541,745439	17438,1887	3443,801705	1848,597686	71,6344968	1218,855617	12800,12232	2011,111768	7919,353997	9882,353044	2527,521648	647,917986
314.2124225	410.6961284	356.9043278	321.0431274	8726.22543	2603.352381	244.1976979	20.49211451	147.7139921	2289.139959	378.2502804	2792.904441	1663.276628	503.7644818	114.414306
1676,39801	1266,204035	2059,60554	1368,752529	14620,17685	2071,479576	1071,901625	45,33722887	907,8240351	9352,42264	1560,896022	5187,874332	5345,475175	1903,084155	418,8296381
2791.329154	1095.212284	2182.877885	1652.723446	23564.5158	4557.252836	2100.807714	18.86670601	1454.623033	15478.24561	2611.152111	8006.086694	6398.643342	3269.600151	323.564008
2664.961542	1835.688544	2993.54141	1959.185399	27790.70401	3668.583042	2218.472913	200.0537287	1205.910465	13053.7852	2466.025432	3718.875878	8503.401088	2798.516965	755.5101709
2722.304611	2312.07918	2898.11551	3089.406614	32150.17419	3025.274336	1941.659991	256.5291104	984.0987423	9047.074056	2867.1551	5225.674895	5712.195621	2444.766651	984.0987423
1799.992925	2195.921602	1889.818154	583.4279395	28568.78306	3586.032417	528.4862949	11.33716474	1068.309755	7690.086054	1554.935749	18025.21985	7804.329791	2966.848804	210.1735925
2254.917694	2247.205278	3503.365071	2082.352381	33226.05315	6631.713902	1917.499484	39.52613316	2029.329519	20890.0434	3009.770432	14018.28054	10412.72596	4371.975948	452.1404013
1969.797084	1235.705223	2635.399429	1611.915243	37270.83738	2307.421462	1870.439053	229.5845769	615.4410086	6368.560405	1947.610339	3980.109093	4219.340081	2708.712151	781.3592742
2472.022806	2007.83429	2522.382881	1687.062509	15413.46727	2927.453049	1192.220034	63.49748572	1666.261608	16073.62216	2262.919017	5456.404635	11078.12169	2770.898903	1170.324349
1267,873714	428,2026905	1654,732696	1022,764587	16945,99843	1238,342493	923,3428131	2,953122004	390,7964785	3842,996101	1236,373745	2242,403975	1578,935898	1113,326995	345,5152744
3240,049532	1725,860477	2925,003695	2099,977409	30247,35393	5561,543545	1760,318616	32,48910196	1493,514172	13472,14761	3147,504818	8966,007624	6774,470019	3431,046071	573,9741347
3919.434168	3921.593041	3532.995878	1874.981314	23469.1098	4824.00201	1717.383575	501.9380028	2204.209466	18196.06218	3312.790818	7937.097063	10396.05356	4174.181197	500.8585662
3363.864241	1549.274186	2721.352319	2013.843337	26287.58147	5620.64741	1661.154372	11.72078133	1718.692753	14167.22805	3108.138103	7361.7162	8200.284827	3645.162993	623.3324615
1480.685763	1516.008377	1331.757988	877.3373415	14616.87926	2283.559217	1357.533949	39.14127421	1007.171812	6143.270721	1551.33099	5643.980808	7426.340783	1562.786973	272.079589
2520.885358	3443.95269	4257.006321	1561.146793	26191.64263	5321.519839	2230.658739	13.62074383	1840.895916	19584.53413	4908.706526	8585.25961	11750.51093	3756.182048	654.8434533
1630.665395	1066.130943	2346.823122	1351.258985	14399.44296	3293.753377	1329.326059	39.09782527	1488.578177	14154.36635	1917.700649	9061.159407	12565.6596	2440.27646	369.0453263
2360.308283	2100.890553	3134.6309	1469.051158	8242.408774	1968.233759	1736.330031	1380.613296	1387.491796	6489.373813	2594.177297	5352.45596	15374.43105	2154.935913	329.1853766
2398.781703	1548.088642	2581.227296	1813.660334	26784.95627	3572.263121	1683.033607	302.2767223	1209.106889	14238.31318	2462.475727	5265.012766	8347.155773	3305.61187	826.9427473
3775,3752	2196,11306	4105,462649	2413,764472	32230,97637	6529,542354	2663,393106	5,157616394	2599,438662	19448,3399	4280,821607	9306,403021	13517,08104	5297,90356	622,0085371
2787.364372	1772.649191	2427.488903	1654.281663	64500.75706	8282.863238	2554.447623	281.6001677	1871.925183	17688.30884	3363.928783	9453.174444	10655.94126	5552.773477	397.1039653
937.2281628	230.1640871	780.7165836	535.8219948	11152.83101	1311.01464	748.4936114	13.80984523	349.8494124	3752.595277	778.8752709	2815.367114	1994.141651	1126.883371	113.2407309
2983.752188	2109.04649	2652.562806	1598.039561	28757.60067	3990.527271	1517.782012	8.127346783	1266.85018	12287.53242	2254.322814	7725.043118	7695.581485	2342.70771	744.668149
906.0004814	236.9539721	515.723351	352.4441433	9517.983079	1916.53948	378.3298714	3.982419698	274.7869592	4284.087991	458.9738702	1344.066648	1744.299828	702.8970768	145.358319
2645.545863	3937.508054	2835.632458	1740.023453	19007.61514	4991.339786	1639.757996	1059.053891	2147.351873	16639.88815	2427.259607	6894.294607	12074.67656	5145.915699	831.3677484
1323.471793	509.6019739	1839.607125	1867.607234	33272.52888	2430.409414	2092.541439	6.533358639	353.7347035	4474.417331	1626.806301	5689.622038	3106.145365	1477.472389	490.9352349
2107.437375	1250.301042	2592.837407	1627.627362	39469.26478	4612.697808	1396.57322	65.21689488	956.8250149	6499.32941	1996.568653	7360.192423	3259.913074	2139.114152	340.9911933
877,765572	760,1895831	1157,515339	749,0401359	12557,31833	1437,265105	747,0129637	30,40758332	462,1952665	3907,374457	1149,40665	2649,514094	2568,427205	1253,806019	115,5488166
1005.355339	244.5945012	1706.766041	1478.357941	20796.82731	1229.267217	1600.655192	80.03275958	227.5088559	2321.849272	1331.781089	2356.919807	1755.325244	1353.362957	224.8111224
1540.366761	2832.255336	3519.282671	1285.948858	33796.99307	5599.173779	1283.968952	63.3569876	2222.444331	15204.68707	2160.077296	10691.49166	9658.97075	3247.045614	303.9155499
5101.940298	1646.879245	2570.884046	2307.024916	45353.89941	5781.999865	3402.289227	294.725669	1881.863225	17586.95774	4768.382531	5698.3615	8742.200589	5497.231145	867.2501951
2586.121918	612.0037208	2825.326912	1995.782045	34526.75859	2204.296587	1875.728218	30.69045208	593.9505137	4007.811977	3192.709676	2916.495608	4985.393142	2026.472497	389.9492735
2780.340665	1722.08303	3257.115719	1521.817176	20836.79803	3435.016858	1523.850332	46.76258523	1203.628281	9678.838565	2106.349491	7394.587934	7314.278277	2295.432988	753.2842534
2373.891511	1026.788157	3467.412001	2070.481839	50052.80849	5456.925276	3138.19916	12.45670208	952.9377092	13665.89195	3390.002495	7240.013203	6656.327734	4175.664491	630.842984
2636.499976	1222.81582	2527.432356	1944.340078	22428.07816	3904.411063	1735.643381	620.8464542	1731.448473	18093.68898	3279.3697	6175.954002	7524.617076	3605.523834	858.9075101
2550,042697	1588,14054	2746,431054	2006,968771	27106,60317	2837,611362	1626,215834	42,08321936	1138,250885	9546,878906	2357,662265	7922,667035	4589,074873	2335,618674	460,9114501
1874.439889	347.5405264	3026.125708	2624.866974	48085.12122	1967.225884	2470.223648	6.511297919	281.613635	3017.986586	2163.378734	2193.493487	1941.180692	2110.474438	598.2254963
1563.150441	1160.158832	1782.303094	990.8608111	11302.46053	1969.257964	1028.251785	97.63198768	924.3879684	11433.32894	1514.334447	4231.411891	6624.434228	2068.967228	257.5822654
3628.604205	2986.125372	3267.404473	1663.802214	24000.06151	5266.458163	2405.922354	66.42753694	1808.074521	15148.59221	3498.862922	7119.163686	7466.870324	3636.907648	743.1580695
3766.667772	2863.035086	3114.214341	1371.275364	15759.96667	3571.64648	1534.643985	173.57916	2189.139524	18501.49635	3086.645886	7309.724743	11962.66728	2677.203279	549.3269887
727.4404084	238.5050519	874.5185237	410.4274435	7287.323108	1135.88031	673.7767717	19.87542099	293.1624597	3457.329482	645.9511823	2358.218701	1809.657082	680.7331691	67.57643138
3875.925546	3587.922072	2799.548925	1259.65156	14806.48165	6376.804201	1219.893504	96.00115813	3265.978794	22467.18013	4058.230776	8645.922484	14449.62886	7073.055024	573.0978228
1801.46268	1348.063316	1844.485978	1175.970127	10856.21202	1661.361174	993.9484843	110.316147	1085.510886	6805.403107	1937.151541	4994.011974	6449.081952	1694.456018	319.9168262
2034,32507	1139,769297	2738,393084	1512,325466	26136,81485	2550,010162	2041,691999	274,6812432	1250,273245	10886,21755	2175,349156	4664,319042	6658,652206	2456,344911	569,358439
2271.942152	390.7675911	2292.126428	1647.036954	30683.32962	2838.716633	2283.245347	2.422113168	631.3641659	5746.867177	2455.215382	5649.98265	3016.338266	2194.43453	584.5366446
4672.72718	1975.470197	3793.71951	2031.620513	38609.97798	7303.624698	3143.396763	53.08757119	2785.055658	32897.9595	5263.836866	6809.50192	11418.93238	4658.434372	816.7318645
2777.920743	1381.386978	3054.602052	1947.876813	28283.09054	3235.353711	1545.982064	11.10764383	1004.736873	10151.37667	2657.756232	6511.098854	6380.836486	2607.266942	488.7363284
2524.665553	1901.763209	2586.645886	2380.044777	38745.972	3839.681612	1558.805368	182.8419815	983.4212793	10474.67623	2752.959779	6522.397014	6598.839424	2362.483682	844.9985362
1913.818983	953.0156586	2187.360761	1973.199939	28704.36438	4413.659853	1533.196795	1.946916565	1337.53168	13042.39407	3082.942381	5186.585729	5659.686455	3585.246855	688.2350058
3297.204293	1757.934468	2843.717521	1999.219591	26926.98886	4266.653448	2401.002407	56.01261785	1720.233667	22942.55284	2857.720676	7632.796347	11729.25761	4102.924257	912.3593714
1207.447899	954.7744107	1025.191612	886.4283032	7500.467524	1633.05775	506.3825237	76.63048416	995.160747	8089.693814	1367.957697	2861.216591	4725.201341	1820.491772	216.4293404
1903,120901	4564,327081	2699,163162	1468,72433	19109,2317	4881,689625	1669,052846	670,573348	1731,260122	17219,81748	2329,082588	6957,725666	8807,074176	2739,228865	527,180305
1439.956215	1101.698784	2797.710206	1078.077455	18401.01529	4088.379622	1040.283329	20.78676951	1232.08852	11353.35557	1878.368082	11698.22697	7267.810505	1999.309286	245.6618215
3883.785837	3089.473611	3811.181582	2042.671959	33937.61296	8088.330772	2939.930518	648.0200699	2473.962909	29636.62356	3811.181582	10536.28619	12952.81588	2761.128993	887.5057479
2854.439637	4023.178216	4592.1554	1927.728665	24851.3523	5032.688107	2476.536881	125.2599023	2897.962145	21983.11285	3689.859494	11051.53256	15409.09103	4371.358284	462.8247236
2828.553722	2695.605416	2554.282414	2021.442353	19206.31945	4118.256974	1310.639993	91.07482378	2773.071358	15211.58924	3556.105476	7840.809541	14672.46816	4444.870135	591.462936
2857.733466	3573.190376	2833.168422	1601.845585	30079.89652	4734.912254	1986.697943	76.76576287	2215.971688	22007.2089	3048.112558	9806.570321	19711.40082	5627.44219	969.2956992
1414.219418	1483.719405	2716.817646	1705.908755	19378.91285	5465.226196	2075.522318	49.49241449	1936.522346	11372.72503	3232.802393	6785.725936	11085.24782	3979.400731	482.2877838
2202.331663	3065.850543	3118.091899	2978.781617	24006.43947	4506.073017	1748.548907	68.63080067	3227.696312	14719.77023	4950.636711	7113.019102	15306.71723	5082.776611	582.8496355
3426,092018	1741,579791	3888,746918	2345,88454	26825,83173	7817,237319	2577,211991	7,133445605	2420,276187	17743,93641	4012,053621	7411,649983	10033,70078	4291,277063	1214,72388
2850.613517	4536.550805	4750.320492	1633.284656	26053.57555	5494.828714	1327.899388	86.35031709	2281.965087	22422.65002	2477.832879	10581.073	11598.32186	3146.52131	669.7414838
3008.366544	1148.750336	1930.925637	1054.0425	12582.77162	2299.729092	1441.787522	124.7915011	1408.361227	11167.72514	2265.188587	3764.91502	11655.74904	2014.491375	759.8911049
2955.261095	2277.587297	3658.792082	2403.641088	24204.4826	4756.645183	3054.380315	9.696445446	1538.502677	19207.58105	2705.308279	6075.361763	13204.40393	5229.616244	633.5011025
3010.425694	3465.283036	2466.555174	1190.106195	8991.221152	1791.835282	2038.401786	242.1158453	1182.985141	8607.574353	1394.836506	5168.105139	7846.511678	1949.388607	384.5369308
3338.183676	1559.51787	3562.428075	2447.321834	23996.18934	2733.743089	2987.546978	5.096463627	1024.389189	13757.39391	2789.804189	3920.199822	6118.81423	3637.855737	665.5981497
2848.841092	399.0019512	2178.91189	1642.80433	37832.9381	3317.627335	2659.192016	4.925950015	553.348385	7718.963673	2572.987891	4474.404597	3401.368485	4488.361455	346.4584844
2541.77843	1947.877397	3477.860854	1592.913368	29315.50566	4426.725916	1650.92688	139.6257397	1495.568663	12583.03233	2813.163671	9655.808196	7194.658714	3360.850551	341.1981104
595,1114361	732,1155077	648,6286516	375,6908526	5646,066233	935,4809265	592,9707475	98,47167648	405,6604933	3633,818931	586,5486816	1941,604577	1700,777108	922,6367948	97,40133217
3414.227547	3905.366824	3867.586879	2027.163874	28910.29288	5241.697429	2793.557032	71.24218087	2230.096147	14698.55723	3644.145494	11197.97552	11505.61221	3956.099892	673.5624373
2252.5509	1534.116164	2502.613819	1906.233603	16525.98356	2851.908056	1880.433461	450.51018	1121.313884	9699.861254	2195.989049	6804.291419	10798.35194	2357.736096	396.9252687
2313.540225	2394.002551	2809.22789	1152.299983	26798.9215	3809.543479	1605.27308	200.659135	1535.737736	15726.90804	1966.856868	11628.29621	13403.4342	2469.498067	608.9309393
2424.633755	1406.510672	1886.164276	1284.822655	15734.2607	3028.003509	1332.483795	4.05626726	1336.540062	13412.04769	2406.380552	4610.961808	8367.06529	2723.783465	364.0499866
1751.158152	1448.073087	2435.204305	1834.296069	19631.07221	3147.664683	1865.86743	4.209514788	1397.55891	14008.21284	2688.827571	4304.228871	7615.012251	4494.709415	419.8991001
3005.0411	994.9679184	3932.274312	2610.532202	45421.61271	4159.277112	2908.01571	67.73470649	1138.675336	13135.04106	3043.485123	7758.369895	6480.563811	3518.543402	606.8663568
2755.380171	2115.608522	2089.643763	1351.206032	10359.93864	2137.418919	1578.657316	658.4662753	1156.989638	9535.297907	2057.447463	3942.488929	10984.13143	2409.529588	414.3975455
2218,339548	1276,187616	2035,262297	1341,495875	13842,139	2635,884154	1363,979046	76,01453083	847,9367383	11206,25485	1701,226613	4992,334609	7514,73228	2023,485398	840,4423479
2321.312807	1728.031985	2708.367591	1671.142043	21426.17436	4866.121815	2073.435204	681.6634109	1854.002571	21210.8053	3194.979772	5785.503912	13952.25825	4564.401945	359.6257041
1265.421798	511.1902341	885.7952583	512.1945371	7439.876727	1245.335737	613.6291415	69.29690796	378.6222362	5098.846402	828.5499865	1554.661066	1999.567301	1460.256582	249.0671474
3801.414322	893.0385485	2593.039641	1224.927759	35964.87218	4571.960095	1921.812335	377.4101744	789.5818121	9837.49415	1709.932939	8501.66077	6000.490711	3189.778096	327.7509409
2146.526027	1124.219121	1601.932629	1251.60939	11726.27423	2944.838378	960.7349431	201.7012588	823.7904042	7911.997271	1659.25825	4242.095947	5900.292612	1615.733241	371.5549504
1320.252933	1433.768097	2507.56018	1874.53418	22302.15025	3661.119676	1672.047673	18.40786429	1072.769425	11022.22007	1884.760772	7382.57624	7429.61856	2548.466545	280.2086009
1841.501912	1318.745698	1466.652964	956.3164436	10145.76099	1591.978967	838.8938814	133.2294455	1263.421606	7942.958891	1330.036329	4068.01434	10863.84512	2080.863289	688.7284895
1880.765511	1526.873366	2198.507383	1372.759045	6314.881873	1784.681891	1373.710368	828.6023066	1161.565346	6926.582542	1848.42053	3752.959115	13543.0338	1681.93901	245.4413262
2721,125562	1870,514174	2335,805873	1927,637039	21710,84303	5219,991249	2598,571052	28,04213365	905,6570572	16808,66263	3360,901648	7183,979202	8371,096194	4074,41816	530,7233443
2232.752481	2047.488327	2272.147733	1470.401133	16914.40435	3379.473713	1295.784344	152.2573223	1313.884865	13691.4469	2099.660416	5764.483517	9331.350857	2234.881954	638.8419117
2677.54414	4913.324607	4189.495866	2332.221832	27625.78462	6667.935252	2211.929377	22.8140864	2701.39523	22866.9736	4151.126721	10080.71518	15961.56445	4790.958144	533.0200186
2747.869274	1834.71501	3269.071247	1578.317265	15793.68076	3546.4852	1608.790768	86.16645523	1179.009302	13643.72262	2448.388301	7293.675192	7262.150879	3141.923185	581.0981676
1140.714189	1287.332877	3785.049815	1698.073172	12140.23533	2756.639302	1310.209551	53.03229136	1872.767779	9789.137076	2543.470288	17119.03162	11076.46995	2900.138443	577.1161119
2814.845288	2514.202126	2961.236893	1981.690382	30979.01807	3947.660861	2761.790612	15.71990388	1683.012209	11050.10993	4178.546949	6363.613588	7241.963217	4090.12249	296.7131857
2896.428814	2052.987015	3681.553253	1849.956211	19468.27823	2586.482852	1910.433472	22.67897281	1506.531765	17219.82007	2683.67845	4888.938568	13977.80691	2777.634194	844.5217495
2831.200384	2316.346495	4325.169472	1877.877479	28345.73222	6249.671484	2094.135953	3.968045387	2259.801848	19401.75792	3719.050539	8647.362909	12662.03283	4842.007383	418.6287883
3120,607986	939,8121504	2341,682258	2166,080614	24442,96403	4613,712467	2333,83414	147,1522156	1565,699574	15670,72995	3681,748435	8979,228196	12771,8313	4124,186096	389,462864
2696.631602	2064.838146	3749.620694	2332.248399	33716.22098	3748.641169	2835.724114	16.65192053	1519.242867	12369.43838	3721.214477	9243.774945	6393.35796	2788.706927	430.9908844
3536.479118	3987.541299	3521.317364	1783.401313	65350.95012	6981.987711	3478.67493	32.21872722	2190.873451	17440.75513	4883.032394	10689.98417	9050.619521	5558.678056	568.5657745
1595.59974	1368.639432	2657.69538	1444.292868	17317.75925	2015.132431	1096.483565	40.28299837	1223.227633	12072.12685	1334.251507	7422.879334	7285.327632	1565.141863	335.036645
2214.386837	1241.76337	2387.249051	1391.650226	16792.79821	3088.544487	1450.729717	56.89136143	1191.436396	9871.745274	2230.797807	4219.807328	5790.884155	1250.515887	688.1666604
2778.436591	3875.37515	4211.878081	2170.494739	25261.10223	5519.25805	1766.894546	257.2061681	2559.862179	21743.57914	3849.95952	11394.33491	13257.80885	4712.057665	462.5644525
2457.335199	695.1719535	2981.788546	1370.812541	68545.69074	2819.027162	2052.2402	13.74429461	348.6710527	4071.204739	2599.118449	3022.298046	2665.66977	2060.197423	254.6311422
3033.129434	3011.709029	3213.060841	1781.106726	26067.56261	4348.342339	1755.40224	33.20162869	2055.287918	20243.35432	2653.988255	9094.033201	10744.47545	3206.63472	519.444836
2323,811546	1911,042287	3793,309795	2067,815227	33870,89279	4680,366807	2157,116268	84,3398725	1366,305934	13174,88032	2909,229484	8490,544576	8047,01607	3543,266879	416,7381935
1895,230115	1268,604665	2338,570021	1219,664545	6310,396576	1439,415277	1214,866494	1209,108833	1212,947274	6721,109735	1905,785827	4221,325204	17469,70342	1778,157673	355,0557684
3237.085545	1465.033623	2418.026663	1450.609945	18460.24786	3482.288078	1385.703392	20.6052549	1404.248121	15790.83709	2125.432043	7704.304807	7501.343046	2583.898964	546.0392548
2037.311081	894.0862241	1955.939189	1388.345126	17708.93478	3630.592825	1504.877712	18.08264273	1308.982416	10077.05496	2252.293612	5387.622944	6575.049817	2728.46987	450.0568858
2728.061123	1430.632592	2669.325474	1665.575188	14241.29717	4728.219739	1479.928583	12.58621049	1351.968776	16302.28913	2158.535098	5546.323421	8297.459263	3266.121621	793.9801115
2440.437428	1110.388954	1737.123916	1053.962655	18442.33123	3226.375163	1498.319759	18.13702465	1374.383423	11157.293	2313.478255	6176.664506	5599.302554	3250.557862	299.2609067
1222.803922	1086.295937	2624.414079	1323.742925	27169.89564	3282.920908	1943.796801	9.613238383	1520.814312	10784.13082	3345.406957	5297.855673	8584.621876	3560.743497	426.8277842
1238.327172	771.2037559	1843.487059	1339.353864	13968.6906	2906.767983	1061.280396	6.001585649	901.2381117	8611.275143	1153.304709	4043.068199	4179.104141	1851.489173	358.0946104
3169.647467	1096.016413	3819.257196	1599.223949	52131.98071	5250.478629	3181.647647	24.8003714	1004.815048	8341.724922	3420.051217	10196.15269	5300.879384	4656.069727	193.6028993
1731,31569	1084,550334	4347,28744	2295,480106	46163,187	6359,446324	3507,235886	28,91032879	1311,702917	10504,36146	4585,178145	7810,744829	6537,038343	5275,721999	311,4055415
3300.278155	1202.687572	4202.94044	2525.212831	60195.59066	5193.541172	2736.43753	31.03709864	1106.12771	8894.715184	4413.302998	9104.2156	5319.413849	4573.661341	328.4759606
2646.210908	4357.123134	4055.133547	1691.358943	14018.61731	2728.769213	1857.561845	79.29942377	2672.281952	25599.59206	2979.703006	4691.701524	15728.44324	3935.641265	614.8421076
793.8496897	847.8452547	870.8220909	495.1508195	5578.775823	1185.604746	529.6160738	4.595367234	381.4154805	3423.54859	661.7328817	2240.241527	3063.961104	899.5431361	323.97339
2739.76126	2358.124551	2373.303284	1505.947127	18786.93436	2796.13941	1676.165773	343.6898771	1873.489299	18768.50304	3049.841086	5297.377727	9280.710877	3883.587192	794.7150786
3184.794407	642.2157636	1254.642529	1104.821389	32857.26544	6318.772287	656.2341158	24.53211648	1196.816825	12745.31066	2167.58772	8178.832405	4825.81777	2227.165718	233.0551066
3036.28867	1473.361316	3075.697726	1742.955089	51353.58323	10730.01129	1810.129617	42.0960376	1614.875655	22378.97012	3089.132632	14543.73316	7649.835259	3871.044139	368.1164129
3524.100713	2439.145129	2536.527626	2102.316258	17352.41528	3202.165635	1605.092685	75.61464469	1611.966744	12432.88067	2896.270027	5103.988517	10036.12557	2911.163821	1182.338081
1327,179946	719,9325181	1272,924162	626,0282766	6824,751595	1380,39235	657,3296904	135,6394599	665,6767341	6149,684437	1053,814266	2174,404881	3400,376922	1463,862787	243,1076474
1933.031057	2168.356577	1846.885108	1322.655489	19366.02962	4095.084271	793.1730695	66.18530249	1146.161349	14225.63779	1592.649501	5510.189072	7973.753109	2326.991191	589.3643602
1919.590024	2284.394338	2257.676276	1029.673022	15095.70528	4574.954384	1273.218437	239.4349442	1754.143561	19223.64592	1811.690157	6800.774508	13248.0485	2107.644079	512.7812753
1671.609789	1371.627867	1298.605952	843.6991554	13961.98754	2364.331201	1022.306813	603.9109744	793.3732409	8162.665981	1605.495352	4431.640827	3472.488103	2129.476933	291.1008782
3987.272846	974.3069654	2746.877893	1567.187424	34676.42464	4080.353054	2071.03464	439.0957663	1325.38123	9894.830863	2306.770385	5776.031636	5565.589425	3435.873784	385.4734723
2465.164274	1368.677737	2856.077167	1797.234095	36559.52513	3816.468104	1991.242716	940.1213792	866.7648856	9076.900873	2565.546844	5645.55436	6027.780301	3012.442325	573.3389109
1303.450747	566.4997476	3251.608286	1601.23911	11646.83375	2694.132428	1539.074536	17.04512515	1509.997557	11720.02752	2232.911395	6946.389825	9143.205661	2398.349374	366.9715179
3233.144796	1500.315487	3412.541237	2369.235678	24385.88939	3425.570029	2887.380706	148.3277836	3119.894529	13239.2569	5118.310748	8591.987085	17626.95309	7828.299442	438.9700622
2934,022384	2539,718894	2752,036158	1549,916029	25998,75452	4826,679139	2919,8679	11,12138051	1853,226406	13745,01527	2554,884412	9695,821731	11509,61779	3293,950699	460,0207391
1244.317609	1662.620124	2450.511444	2030.090941	22948.39368	4273.039618	1381.986791	9.530943385	1227.373709	11595.98112	2267.305532	5634.905528	4947.618611	2246.125658	656.5760999
3085.674866	913.9250749	3565.249983	1782.624992	34003.66593	4824.959081	2143.484068	67.83773752	1524.464713	11717.08478	3444.649561	9792.188973	7062.662229	3602.937615	846.0873374
2279.939667	1787.267952	2254.346331	1814.994066	17007.83805	2342.856617	1572.923764	190.8836297	1386.305691	11366.64027	2440.964405	5308.484406	9854.500683	2310.864948	742.206739
3609.614175	1375.450709	3123.082199	2531.90809	32227.61921	5238.579329	2027.036771	74.43615603	1321.511466	15516.16278	3677.577622	5893.401745	6329.230832	3793.007603	984.9305863
4464.231115	1966.225827	1700.858473	1262.062061	15565.78034	4204.087528	2228.458921	36.56636766	2430.096319	13603.73352	3817.528784	5697.040082	16404.71729	4391.09838	1451.16242
3112.858335	1819.242765	2817.320865	1638.238848	33119.62644	3941.181348	1955.251359	89.99064831	1918.437003	10308.01972	2875.610262	5860.640971	7708.517125	2538.145331	908.0874512
2127.19176	2024.845742	2377.036453	1822.160489	26789.57208	5243.728368	1600.410782	176.5970518	1576.329366	14968.60692	2955.993833	6312.341209	8467.627955	3036.26522	462.5638686
2005,552469	1840,167662	1771,082869	1319,938238	13725,89224	2725,709097	1271,788231	4,186957138	1351,340416	10171,16563	1929,140501	4596,232198	9157,922	2883,766729	657,3522707
2239.489023	1071.228718	2607.238737	1176.022832	19622.6978	4234.458448	1557.356968	125.170747	945.0876554	12080.43256	1676.70582	6097.464914	5769.498151	3081.723197	316.3229729
2092.527272	1659.82851	2595.206928	1383.847522	6544.691987	1631.244765	1255.713493	1598.718434	1301.053226	7385.448352	2120.125371	4339.801027	19972.15267	1893.426703	382.4307968
4454.952997	1695.339757	3657.268566	2444.080104	24916.70415	2791.895509	3038.698655	454.0344803	1178.823467	10940.56479	3069.93956	5489.02694	9842.967679	3760.363552	974.7162238
2667.285444	666.0208551	1652.244044	1117.506146	13480.51827	2544.541216	1148.459039	433.3404923	1275.472631	7970.903439	2416.460282	3309.824794	4449.745104	2009.803318	910.4419702
2277.488163	2568.641439	2371.833998	1505.475472	19021.33767	4116.724707	1622.139676	146.0838733	1255.915522	10410.50491	2108.071449	9290.528553	7939.252725	2861.823657	585.3459645
3101.39701	1666.55529	3639.091319	1986.399234	23950.66714	6941.504801	1802.216653	6.931602512	2702.334751	26397.52282	4117.371892	9095.252724	12983.88173	5001.646327	527.7920198
2848.130633	1446.669528	3094.624176	1715.767282	16534.44243	3462.749905	1866.462025	106.5627108	1436.982009	16416.03941	2391.740842	6216.158128	12541.03175	2828.755595	930.0018394
3363,053426	852,3909348	3024,959225	2807,612953	40304,76422	2601,89426	3301,337818	70,65989911	473,1529953	4634,037181	3042,847807	2151,996421	3191,323038	2322,83238	609,1062189
1625.713851	1032.245599	2751.357732	1973.038713	21373.61316	3388.606429	1813.483314	20.43087425	669.3543563	6873.529836	1985.686397	6648.790219	4990.970709	2151.079189	651.8421783
1456.40327	1427.509962	1446.471195	1274.917183	24684.81648	4461.307226	1084.401939	9.029158522	1209.004326	14546.8773	1949.395325	4886.580592	5043.687951	2120.949337	214.8939728
3126.894786	2587.701795	3088.684259	2194.982491	23703.26353	3308.394789	2274.587755	67.92982564	1472.16669	8979.473826	3356.157948	6806.780809	5371.763243	3200.13163	736.6140467
3035.034816	1488.030602	2807.56517	1575.43792	15900.76013	3458.381102	1553.322815	28.43370577	1624.93363	16320.94711	2328.404573	6058.485529	11266.06609	3305.681571	490.7446996
2311.877815	1936.249553	3632.802618	2193.586042	22988.03462	4670.449752	2495.541358	219.9811925	1428.840104	13787.21747	2054.541326	8086.384118	7992.995876	2667.790783	631.9271049
4284.174461	1146.40942	3690.801437	2228.067937	26598.82152	3885.054144	3393.58418	5.307451017	1040.260399	9268.932456	4232.161441	6965.498715	7386.910325	3488.056808	998.8622814
2601.860974	1323.013426	1899.132775	1327.920746	12723.69886	3017.020232	1550.713067	96.18346869	1122.794777	11360.44541	1426.067143	6945.820489	8890.100606	2266.200298	417.1221856
2706,919793	1734,356781	3118,061592	1810,914219	34298,67751	6819,282929	1747,588931	177,6888691	1790,120841	20756,51731	2976,288558	11662,24977	10936,37183	4770,190013	510,3829219
2414.278343	1059.365378	2274.18111	1135.171415	27423.55356	2998.656527	1372.185227	84.4421678	739.8285383	7765.800727	2120.649896	4492.707155	3408.392955	2714.623781	285.9518864
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3433.218141	1295.135972	2544.952256	1739.268914	19194.39852	4577.288487	1595.253017	463.2679216	1566.046996	21317.37412	2511.717819	5897.602063	9706.470062	3974.033084	457.2252966
1823.696638	732.2629248	3114.669678	1457.101131	24453.31248	1878.453942	1970.334841	159.6314614	570.7752836	6972.739359	1641.791019	5007.044968	6238.620254	1627.869671	275.6426979
3157.832193	2231.33911	3310.850281	2146.445513	24554.16283	6723.363264	1946.264315	349.0070097	2151.685858	18983.67557	3580.204039	10102.33804	9913.685599	4140.921007	731.5522305
3088.566623	1438.357741	4798.580371	2747.982971	33736.02702	7037.71515	2894.961035	6.081850914	2022.215429	20053.88975	4092.072023	9088.312549	11089.2415	5379.397134	508.8481932
3909.006183	2431.236385	5193.393929	2547.058791	37296.88281	6424.006987	3007.246027	42.39927342	2233.717819	24144.83502	5413.663325	8343.349706	14798.38055	6708.392358	686.6614036
2240,448083	1314,960091	2995,78791	1737,871713	24451,17638	5161,488823	2256,184329	11,80218481	1351,350161	12024,45929	2683,030013	6889,525382	10038,74169	3517,051073	503,5598851
2767.239309	1942.89117	2693.941606	1539.251764	22838.761	7703.287366	1334.419827	61.24876555	2080.449873	24348.8945	2024.221498	11880.25236	16915.70415	3376.71473	920.7396396
2741.195283	1123.36199	1380.679095	2003.808951	31598.15648	8045.000096	1619.75357	330.2876277	2028.772551	9136.677516	2867.933558	6599.991724	13633.96603	3918.325026	437.8231345
3048.257878	1296.72213	1812.848651	1987.636179	65317.45852	5973.889952	2916.480894	2.745353838	1760.686928	10689.49273	3884.675681	5412.007533	9703.9107	5041.384765	510.6358139
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2593,734259	2159,652837	3770,837933	1586,743574	28140,99016	2833,261169	3057,145506	266,9014145	1348,194325	9494,064601	2853,792047	7880,924184	4914,701138	2923,205968	354,8908918
1275.74314	329.9628202	1610.795361	1707.493977	40353.01091	1780.442056	1763.477386	22.90230372	243.4430062	1715.976312	1551.419018	1672.716405	1676.109339	1123.061116	681.1314772
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2922.89945	2945.080819	4463.496332	2297.78815	35406.50569	6062.571367	2362.315768	29.23907694	2833.165731	20137.65806	3953.324851	15774.98613	15171.04796	4928.29683	469.8417191

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3296.25498	12259.11728	2986.581593	2685.221586	1720.869561	169.3851078	4211.7659	2286.179369	325.2609738	287.8507659	635.9735334	451.0008391	5847.423321	2561.560065	15372.47791
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2532.408069	5957.527764	1314.779637	1392.500601	655.2309029	21.5891566	1699.066625	851.692228	212.6531925	307.6454816	537.5699994	507.3451802	4634.112465	3727.367887	9857.608905
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742.0490169	2305.323497	243.9739324	831.3526827	446.518329	29.46100315	765.986082	352.6113815	80.09710232	51.55675552	174.0040499	214.5129292	1237.362132	1441.747842	3572.146632
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1919.665731	13326.95034	5469.689571	4341.703178	6436.833459	1379.694467	4556.856138	843.9009305	443.883534	450.1501251	1004.743435	388.5286462	5444.623206	4349.014201	18648.33059
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1566.137147	8842.479276	1179.494127	1952.780167	795.6461176	130.4337898	2016.133722	887.8814404	316.7677752	220.8057727	601.8587728	981.048433	2991.592135	2460.540277	8350.557555
683.1570387	2528.897347	557.472361	822.0183359	408.4752027	84.1276472	863.5753664	344.6192777	108.4537139	85.14123331	237.1791499	190.5541888	968.988322	1158.528925	2507.612038
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1123.812142	2089.658722	626.4462865	3087.098415	1061.528578	195.8772971	1813.444654	1159.015896	275.3114083	156.1602415	386.338632	454.0381587	2289.146661	4870.755277	4577.390661
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6461.207778	16315.04778	2950.069385	3748.150722	3881.339066	371.2494	4375.289539	5173.370876	286.3025034	238.0610559	648.1133593	526.4610135	5047.523622	4653.202225	15013.57743
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1882.776797	7655.292579	1488.119839	2177.453993	1125.035437	218.9030597	3101.477486	412.5480741	365.1892391	182.0684103	464.1165834	423.0722597	2792.06643	4350.698312	7182.756648
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3868.449078	15539.16667	3333.888249	2095.014532	4318.661059	275.1881192	6098.421769	1321.113844	265.6988737	264.6445131	861.4126184	633.6707267	5054.604765	5581.78507	24129.04256
3641.464078	8566.038746	1447.515041	1184.845862	217.3162267	24.56618215	3067.93821	1316.180452	113.3823792	116.2169386	429.9081877	421.4045092	4573.089293	3086.835273	10006.93981
3056.964243	11074.85805	2663.600889	2908.504795	6221.2094	1466.172499	6763.032201	1176.839124	429.1236583	400.9488727	1424.993966	422.6217847	6397.843633	10192.77053	25902.38082
3333.187229	7837.236088	2564.643422	1693.13173	1391.658745	182.5822304	5750.278733	1482.94986	269.6272472	271.7502964	825.8661352	435.2250841	5491.266732	4679.200416	14723.34614
4811.263104	11950.69182	3406.407777	2249.652831	2185.795771	345.4562281	6974.02846	2300.947847	262.7561008	444.9057483	765.2378871	582.0414025	6240.195684	4021.947965	18333.25734
1834.189961	14357.24474	3553.743049	3073.701145	2687.825244	2816.791726	6325.498861	638.6911471	238.4856367	418.6292935	1012.284526	402.2525974	4563.980489	7105.439011	19276.39483
3369.696306	11595.96741	2493.575266	2542.014651	1080.408878	106.3560396	4786.021784	485.446874	183.2272366	224.2954103	563.3711011	447.5377906	5567.370115	4105.764342	14216.95932
4041.022517	7558.607136	4103.507276	2068.143083	1667.626022	118.8234758	4663.821424	1066.338261	236.6226113	164.9187897	611.5311641	530.6082798	5322.472243	3550.363509	12185.55231
5722.042439	24843.75291	4204.656652	3732.830179	3791.935871	81.52509263	5635.422028	2086.023308	954.8626474	219.0986864	1362.488111	708.2492422	6636.14254	6302.908724	20795.013
4557.611858	9877.633833	3608.811423	2164.02319	4749.26744	1577.472866	7466.14327	4950.400495	729.7654847	633.9376937	2045.028241	499.1469549	5691.749559	5831.805561	19560.45293
3327.030556	13158.81811	2695.273582	2558.225772	1641.231081	327.5776904	4956.005329	900.2815436	255.1540513	265.1819398	676.3253675	635.0996038	4800.015953	6407.820739	17017.32675
3659.869464	13453.27936	2896.00504	3106.094691	1999.622528	729.3881741	4490.531624	965.3350133	242.4111361	230.559925	714.3048145	384.6256694	3321.571257	4892.395419	15581.11045
512.7159077	5098.67486	1636.062219	778.8653112	54.29803884	836.7238771	3777.719292	335.5796826	219.8625507	996.9475983	1039.673924	510.9356441	3702.05809	1594.226026	8547.045392
2617.543719	8768.975316	1129.37634	4246.373494	1576.845846	113.1414925	2265.887729	1240.479247	299.6720613	205.8971305	588.1319025	612.594928	2900.907096	7315.46389	9088.01394
950.7083528	3952.253895	549.2434266	2387.443774	986.0109946	9.851900029	1585.334913	705.2318438	178.9761839	65.67933353	336.6065843	492.5950015	1491.741863	3674.758711	7149.195455
2675.504491	9247.747055	1661.742958	1636.177682	1126.838716	191.7395721	3048.167557	1062.925525	195.6726915	209.4386095	596.8508732	501.4727271	3659.767628	3001.953403	10252.65907
687.1610467	2179.221014	657.191406	576.9155828	771.7182472	82.41651183	808.1099537	175.5364668	73.85375736	59.93928133	224.772305	84.55720045	1333.64901	1068.203621	3303.082539
3426.101243	13425.91281	2837.813538	3315.999691	1555.454282	133.8489459	4569.214418	1305.027222	316.272106	257.9830489	840.8736196	624.9882231	5477.012511	6067.45907	14543.11974
1825.856236	5632.369563	1148.10634	1343.592035	426.6946639	1549.000861	2644.514603	752.1733842	188.5395026	1202.683564	714.4654837	774.9965872	2769.546062	2258.504779	8048.652136
2371.155224	7382.666788	2728.765563	1741.363681	589.0636982	473.8336999	5527.066471	529.461975	458.9332691	753.9617993	1076.804467	588.0703362	5191.310096	2926.444612	13846.47368
3967.02938	7114.692774	2389.141416	1276.71012	1948.022351	13.18286859	3633.401398	1209.78171	205.8555634	187.6023608	495.8786725	320.4451135	4940.533522	2777.529006	12786.36847
1969.000542	7995.973339	1485.95872	2492.032754	931.3551468	137.8616093	3868.54409	1539.630034	177.8519998	51.56655615	438.8419166	229.4185559	3342.354742	3095.045748	9403.003657
2532.728823	7450.817714	1119.453325	3821.518914	756.9811118	171.167434	3167.970529	839.3611602	350.5728728	168.4214324	470.48161	497.0262922	2629.754213	5134.107685	8358.828915
1528.80498	6789.26505	1861.153888	1284.73625	897.3420534	1522.573438	3176.009258	585.7649515	222.2583327	1378.209381	639.7716492	488.1374596	3429.425301	2175.846761	10705.78922
4957.003912	8959.008366	2142.325017	2097.358675	792.2641242	40.6838334	4530.894288	2912.10597	493.5591368	168.0884696	609.1868738	446.4515402	4279.296898	4897.048789	13412.8175
2852.624229	8418.695508	1837.748301	1627.458695	1146.941864	769.0301073	5088.602124	876.7146402	286.4814931	718.2355164	593.2808226	355.5621368	5244.033572	4078.805655	14603.4449
497.1299919	2838.160317	580.487142	987.2298627	526.2547793	98.42169536	1303.585312	199.8562998	61.26248385	63.27108988	290.243571	130.5593918	978.1911355	1505.450218	3607.456426
716.7482697	4365.046622	714.265308	1895.327411	1210.857643	1299.416609	1367.284228	237.5366668	84.42069689	235.0537051	347.6146343	242.5025901	1713.243555	2826.438038	4369.184891
2881.143244	9172.099346	1504.266756	1814.249743	1014.875807	714.4470903	3021.272539	986.2129968	329.0915275	657.1214693	748.4178286	1294.072813	4355.685604	2480.925483	16501.28614
1814.197292	5969.261326	1223.100316	1469.561166	1231.281589	88.97134408	3266.373253	574.7344296	259.7554183	195.3278933	593.1422939	522.5788141	4057.911417	5184.881776	10143.75588
3572.35564	9703.16826	2406.033461	2247.964627	877.2820267	333.0736138	3211.055449	1206.968451	362.4292543	494.5296367	622.1137667	732.7619503	6231.299235	3680.745698	14763.62906
859.9959646	6359.594052	1109.242583	641.1916816	76.10583757	3159.343582	2364.03758	465.1969322	193.1185628	2786.424978	791.5007108	278.7376301	4891.70271	1326.14422	11043.90835
5450.559904	9433.58148	2770.978244	3427.371891	6971.066706	789.3341324	3707.793227	2006.570452	639.7760863	554.6110878	1240.085466	755.0604135	5270.882529	4826.362781	19756.20246
4766.825398	11237.22923	2930.154902	2268.953523	1651.406342	96.89102327	4104.559283	1213.799632	276.8314951	191.6525735	737.862408	496.1672181	5463.163082	4867.975367	14514.48823
4733.922928	16743.46541	4815.846238	2788.50356	2766.726478	46.66517673	5290.794037	1011.078829	500.8728968	159.6986048	813.0110789	407.5425434	7015.331568	4883.251493	18333.19243
4931.453346	7415.569202	2532.453135	1568.859971	1668.686962	127.148062	4371.371387	3739.834319	277.4139534	353.0723044	626.2830161	416.1209301	3345.780408	4349.304368	14835.34165
3347.273449	12168.31125	2138.969085	2433.24631	2932.373758	225.6472005	4040.852632	1344.524563	160.1367229	282.8388873	591.6739958	352.5087602	6090.394716	5016.230854	7023.139135
2055.377432	8598.78742	2103.519637	2325.56328	1174.080321	33.40479574	1636.834991	703.4656984	187.6563525	125.759231	477.4920812	358.6103072	3639.157747	2021.972636	8544.750251
5830.655915	11114.85658	3313.289933	3347.848368	5704.301638	134.9938858	5901.932687	3169.656438	318.5855705	368.2633204	811.0432658	545.3752986	6692.456882	4892.178421	21506.14593
2948.257722	13255.25561	2494.908537	2297.498279	1690.387335	7.936090774	4580.116388	848.1697015	281.7312225	79.36090774	553.5423315	354.1480508	4397.5863	3939.277058	13384.21709
2806.683259	11042.30226	1636.332638	3494.374613	1015.350288	128.512935	3107.854794	1101.679588	267.8170324	210.9181757	672.9761327	548.3872568	4594.092171	4074.154343	13449.71251
2500.726654	7603.07101	3117.827239	3051.219556	879.613214	15.6723958	3044.362883	961.893292	195.9049474	315.4069654	630.8139308	630.8139308	3048.280982	2383.183686	7468.876121
1847.838767	10429.39152	3717.472556	3191.549214	3129.006979	126.9796896	4103.149673	375.2534112	219.8454328	103.289449	577.0942611	355.3536091	2525.379649	4594.011458	7491.801689
4578.506644	7591.871424	1534.683987	1118.098833	232.8553808	35.37043759	3204.954651	1772.451928	238.7504537	529.5740517	787.9747486	772.2545541	7360.981068	2841.425153	13579.3005
2265.807876	7381.654146	1582.017474	2527.289325	1469.328816	90.80736537	2427.729443	304.1499707	180.5206661	111.5945936	475.9181197	311.8084232	2785.488581	2825.968973	9643.085763
3722.881374	8903.603242	3437.209701	2089.164725	1465.973496	7.116376193	6020.454259	1236.216207	344.6359328	164.6932776	859.048269	399.533692	6772.756885	5728.682835	13874.90033
352.2879723	2197.640369	350.8412044	1240.603434	1174.052113	128.762339	671.300284	347.2242848	261.1415975	91.14637476	636.5778555	536.0274897	734.2346856	4385.876748	3399.181072
3459.395506	8794.147523	3899.584841	2003.878945	2536.176024	380.2121996	3578.278757	1362.337797	333.0873017	324.519145	773.2766425	474.4619842	5631.424634	3484.028972	17218.79305
2097.582241	8098.612227	1532.008978	2480.584485	1561.775992	57.54956006	2896.330445	770.965658	261.9497216	181.5787843	521.9149757	439.5595708	3284.293858	3787.356392	9724.883416
1164.007154	4727.039771	1017.186796	623.7466202	67.17271295	4428.601004	2375.994818	826.2243692	278.2869536	4308.64973	1039.25783	460.6128888	4638.755634	1401.99048	9601.859511
3756.337968	12961.73559	2388.149043	2090.40311	1484.608616	213.2643882	3384.413117	642.8839529	260.6564745	203.9920235	707.7905058	564.5839843	5118.345317	3605.919607	16640.80386
2304.532357	10037.8759	1921.783086	2062.425863	928.242327	98.44994378	3780.276923	678.0991025	185.8493837	86.39484862	412.8870091	390.7860013	2475.312872	2779.704025	8926.797963
5227.472755	16889.64562	3613.29126	3288.14749	3329.052674	114.3247452	5613.449877	1025.776155	733.1467608	218.1609818	1175.76183	861.1065674	5814.829245	6374.915611	20714.80476
2008.171674	10120.45975	1675.659555	1836.877552	1864.083089	14.10657473	1637.370281	2251.006282	183.3854715	116.8830477	410.0982796	225.7051956	3015.784154	2193.57237	9141.060424
1955.332687	8567.318047	1093.025204	1839.973827	378.7615923	19.22647677	2883.971515	1443.908405	157.6571095	147.0825473	365.3030586	482.5845668	2854.170476	3900.090812	7703.087916
2272.600433	8326.199824	1268.335101	1445.381877	1184.312901	27.00713542	2949.779347	628.1659646	172.0454553	210.0554977	619.1635862	601.1588292	6170.630312	2913.769833	17793.70119
868.813011	5452.88166	486.4072842	2185.632731	661.609908	15.20022763	1336.82002	516.8077395	196.0029353	52.80079072	237.6035582	356.8053434	1470.42202	3012.845119	5442.481504
1394.303857	8744.961453	1050.683949	2587.061422	1348.047331	54.51662	1716.447521	526.1679839	126.3794373	70.21079848	332.8817857	496.4316457	2009.680855	2915.81316	6830.271678
1427.706537	5878.943767	803.515998	2046.724227	1540.647091	69.83347193	1502.712859	983.7035984	230.1918149	122.4241113	517.2849773	575.0484664	1628.585537	3909.812286	5457.35651
5997.426283	21750.85428	5393.44711	3150.251081	3022.068451	252.0200865	7391.140813	2349.652789	429.0859232	400.8422928	640.913151	476.8828361	7121.740031	4284.341471	20339.75905
1686.499775	4120.895567	1513.024662	1496.940877	1316.572713	137.861017	1956.4776	829.4637858	172.3262713	101.0980792	372.224746	193.0054238	2287.344041	2190.841329	7051.591021
2774.455506	15339.19363	4665.291928	2505.575098	2435.10241	312.2482164	4155.720186	1375.843704	286.2275317	223.3442104	663.5274599	394.6470513	4830.089598	4886.467748	14875.15809
3090.170529	14275.9395	2108.88587	1598.968306	926.0873971	48.18808594	1781.206886	288.2523686	136.6789347	76.22479049	665.871733	793.7891975	4484.120434	2584.633701	14586.09554
2023.296786	11393.69562	1713.398296	3157.20282	2911.791878	36.72207536	5505.624322	504.2567909	287.5069802	154.9492448	1537.848863	402.1515082	4030.471685	5137.507908	14944.98901
3749.798971	10015.50339	2696.922327	2559.441155	1259.098402	160.3947009	5304.481893	633.5590684	418.1718987	255.4858449	836.3437973	435.3570452	5933.458255	5867.009022	15899.69756
1685.059445	3805.208541	1238.492607	691.7612457	1018.33933	33.38817475	2042.938943	1224.928661	80.3402955	87.64395872	285.8862463	131.4659381	1931.297233	1428.387851	6093.341892
3243.079822	9990.828995	2879.585938	2979.389172	3922.792373	823.6393198	4166.522376	1153.515272	577.8081963	257.3872875	1161.919755	319.3703485	5442.953209	4703.358718	15222.61957
2071.677457	7656.780124	3391.138694	1461.272492	4462.944045	1380.090687	3544.253744	949.5188343	542.5821911	1657.547489	1273.218437	468.5937105	4951.062493	2915.351659	15689.66836
990.7297685	7024.9056	1476.226826	1763.380574	2183.749978	319.7175747	1719.962138	237.8146157	124.3346124	129.2685256	389.779142	237.8146157	1227.557602	1809.759358	5038.512149
1136.185589	4842.194326	933.8373095	1633.962356	1677.467236	893.3676536	1833.275412	691.0193742	421.8961626	191.219124	967.2247756	1013.76488	2888.521689	2607.25758	7720.598601
1784.686273	6651.310497	1709.399346	3854.111568	2253.781746	1092.625669	2707.433746	1139.921303	215.2433959	288.5998895	854.2170643	653.4519237	2306.868682	5582.815254	8465.918498
3762.96204	8845.417298	1430.787858	1837.865553	1196.166724	23.06105167	3834.150504	603.5979612	149.3955087	167.4432882	517.369681	280.7432378	4957.123455	3361.900272	8512.53603
3120.896744	12188.93584	1982.380783	2109.662057	1631.605619	300.6644262	4369.656327	1694.745149	194.4296622	383.8482507	786.7385818	641.4174425	4363.643038	6158.609662	19485.05924
1713.703632	10436.91009	1762.233293	1951.296761	1263.793239	26.28689938	3753.971438	473.1641888	167.8317422	118.2910472	649.0842077	653.128346	5881.188218	4360.592193	17035.93286
6024.615213	13255.42426	2607.242513	3053.078864	2294.839368	155.6720753	3089.084651	2430.390563	381.2377354	214.975723	914.970565	1080.173584	3925.689681	2401.797733	11572.68326
2721.047027	14023.56785	2200.957706	4009.96404	1996.502303	233.6633181	4128.680081	1981.42725	204.4554034	170.5365346	521.0315118	542.7019002	4628.041204	6209.037365	12184.41141
3959.502331	8600.427227	1974.952415	2488.951909	591.845891	261.2653033	4359.398203	1121.84122	440.4186541	448.949766	750.737851	615.3064489	3800.610371	3503.087842	11135.23386
2636.550222	9976.602477	1918.079499	4653.877929	4155.479319	650.5072766	3755.250132	1774.601111	274.011357	197.4176312	774.5675366	671.0041891	3618.244454	7358.391598	15022.07931
4140.357573	19986.13181	4329.457931	4801.686451	3960.659994	90.89354247	7619.386267	736.55112	387.6034972	118.0571299	896.3983844	613.2702234	7550.432546	6410.606628	25096.0205
3315.337294	11775.48086	2557.57513	3625.191458	1679.143688	19.42979907	4041.398206	420.2972325	380.4150133	100.2168583	630.9571592	404.9579174	5185.711109	4745.984078	12596.64552
2644.942208	10136.26942	1958.621847	1710.783939	1591.380251	96.32566462	3197.811387	813.7511875	239.8107692	149.5054586	571.9336337	606.0489732	3919.250479	3093.458583	10495.48387
2474.491669	8569.654522	2757.111275	2343.649258	770.4001134	39.77609281	3885.496224	1228.87192	186.3195926	149.6837177	543.2576887	262.7315604	8310.06318	3399.809196	16182.58934
1523.395913	6327.429775	894.6312302	1268.202839	928.5922856	101.8831661	3745.41925	232.8758083	192.1225419	100.9128503	521.0596211	408.5029804	2638.288845	3558.148288	9284.95254
981.703798	5269.265566	1456.785355	697.8376395	81.80864983	5468.366136	2754.881642	629.8280391	315.4068427	5127.332487	1034.928703	588.430891	5605.370983	1691.369194	11161.45965
1152.78938	7570.71255	1646.395673	3736.412191	2143.126056	2157.705145	2998.085479	974.7162238	311.3676826	1035.115306	816.4289738	913.2757781	3176.158635	4883.994754	10726.04392
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4638.162977	8957.781952	1693.15267	1715.47104	982.0082593	489.9896583	2706.609541	3168.194002	102.4616056	553.9013529	1117.947419	407.8174796	3784.992578	3225.004397	11291.06604
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3317.584818	7280.201523	1018.625016	2637.528575	385.2679144	8.756088963	1989.577992	5564.980985	211.1190339	116.7478528	500.0699697	734.5385741	2596.666827	4301.185478	9721.204546
2754.796265	10629.12541	1700.19055	1242.412213	1148.508964	18.05831704	2226.590492	672.6723099	289.8359886	111.0586498	654.6139929	747.6143257	4027.004701	1480.781998	9330.732417
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Surv

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1424.502033	5617.522314	3570.467316	2638.577286	9999.635784	10341.94294	817.4644071	8739.014516	1022.072936	144.4865915	6390.380122	36123.5873	756.372761	1959.781218	629.3409255
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749.3220122	4337.016871	2106.94195	1737.543037	4963.205912	4755.879456	509.3705813	3684.517366	671.443039	701.9631771	4278.081432	31545.19381	409.3908184	1466.019049	741.9550823
373.812799	6507.410712	1306.326369	1130.319479	4933.844524	2474.592287	580.4997893	2043.456143	258.3587379	134.8309664	3320.717154	37305.38702	931.7061987	1393.522443	1023.746499
958.6390259	8036.641546	2795.264806	2312.372091	13233.09803	8082.582714	1037.249468	7498.619431	838.1710759	381.8221466	10946.24881	68257.34466	1149.550099	2802.41121	533.9384564
681.6054167	7230.066346	2765.803313	2027.649891	7392.64186	5674.99621	879.5234339	5280.169961	633.1356981	230.231163	6509.079283	47603.3223	896.6897926	3289.882144	2521.435149
1093.952873	6300.300822	2443.058115	2550.490692	6793.044467	3915.091017	867.7246582	7387.022655	950.3651018	1109.447956	4344.821324	76602.52622	1092.919867	4642.326921	2771.553878
547.0835548	6032.520977	2771.43573	2003.377145	9096.96765	5759.952658	1129.211608	6163.937845	610.3583431	13.62841596	6570.843407	61648.13957	984.1663236	3259.13833	1531.249878
658.1482597	9988.557794	3692.524115	2991.289226	8491.297432	6125.841494	1073.934231	7463.681328	764.7876667	653.8395968	8671.184109	72071.00451	1179.496472	2407.465402	626.9104536
350.0149141	1992.392588	1342.06902	931.9923749	3234.013541	3417.305375	477.3872054	2959.593564	307.5574837	312.7352191	3133.565474	28166.88066	354.1571025	1867.091391	928.8857336
1057.523692	3072.406818	4590.686096	1545.692654	13865.89638	6511.731128	792.8791788	6067.845311	771.7919666	366.9174923	7684.180126	45408.14839	512.4192565	1800.847922	1675.379009
611.3199944	2594.566777	1629.871701	1205.632632	4931.188641	5996.983005	546.1251263	3714.217771	428.9633345	134.1691487	3990.114894	35961.11126	232.4338773	2510.474845	1784.827619
1404.4047	7868.350715	4451.616132	3255.271388	10679.32741	9044.106193	1224.51953	11418.37371	1470.507082	782.3921245	10456.09641	83895.84249	1519.271134	2429.533439	1024.045094
1043.478677	4639.924006	3302.403016	2194.171339	7861.651153	8748.024191	933.0801193	6730.065935	1051.970874	339.6878705	7520.901758	55158.94103	554.1158388	9412.538587	5411.652387
1174.551176	4951.53927	3126.902283	2385.741648	9389.081545	9550.294452	979.8394834	6935.295489	743.254309	112.0115649	8692.934904	55292.8864	721.2707308	6313.474278	2979.298258
1268.170403	7645.869982	2054.251814	2316.278952	7033.790966	6647.915065	693.9624964	5109.529177	929.3775025	1147.392269	8089.06432	65937.69613	656.0913867	1486.185169	620.267364
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1224.086669	5668.699267	4428.223153	2285.303228	6526.072105	5662.553225	892.2004087	7242.085981	951.6121466	421.0038668	7386.517964	39160.52999	734.4520012	7726.598947	2877.371926
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1663.823183	4656.598807	3683.578161	3710.957529	9650.174461	10720.07595	1050.946542	10116.67678	1586.95034	1262.610124	7850.507486	31868.53227	547.5873767	18060.90596	7348.201374
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823.5885221	11246.87593	2425.916686	2425.916686	4245.354201	4076.151609	769.5660077	5805.891364	763.4502513	619.729977	6431.737097	47454.19212	972.40526	9407.052563	5856.856
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521.1383242	4591.916932	2398.219571	2020.640106	6628.289516	5660.742137	803.3396432	4142.558038	427.7267378	129.7929411	5762.019962	40611.42465	515.2386451	2273.343029	1462.137147
209.7874847	1478.145491	566.2121397	577.9859271	1520.959264	1631.204728	300.766751	1792.826718	157.3406135	111.3158082	1883.805985	12827.00621	286.852275	747.100328	211.9281733
1325.536335	5999.455171	3516.77311	2998.648158	8199.327361	8892.319484	1117.206927	6286.582748	971.4842845	213.7265426	7744.888602	41003.11337	764.2343038	5889.353618	2488.079195
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618.9998424	4396.352907	2201.81152	1403.135549	5317.582538	6799.650953	456.9797494	3774.237294	541.1055669	1231.768143	8582.910566	33001.20804	431.0149909	2877.933831	641.8488298
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791.5381646	2459.495201	1911.349909	1516.603486	5474.294309	4617.30596	518.4881776	4147.90542	830.3992114	202.4865072	3970.985391	33871.49296	472.4685168	999.1379674	532.8054053
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1429.222599	4446.470308	4192.595241	3339.031744	12935.09137	10624.09694	1360.268877	6402.248601	663.4183847	605.9569498	11313.63415	72945.72447	1146.094438	2274.428069	345.8133627
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430.4553138	3783.792513	2219.503856	1652.587184	4812.269661	4992.880283	861.9140198	5626.020849	585.9811264	381.2890891	3555.01906	51915.51966	537.8182941	1757.943379	1010.416086
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3288.502998	742.4682272	3214.356374	1597.158373	817.6168332	2369.686042	712.4087848	9444.676802	2353.65434	21.04160968	38.0752937	1964.885551	30029.38296	749.4820971	1222.417324
2083.615334	496.4864664	1674.217478	297.0779676	805.7731175	1076.805893	520.0899213	15117.60594	4081.769883	154.6433256	9.766946879	1950.947639	17942.69533	345.0987897	1416.207297
2196.719723	694.8489336	2040.923998	961.7789424	798.7127502	2189.449256	576.4441826	7361.867326	1396.968334	16.61821067	17.65684884	2206.067466	60539.10283	734.3171839	918.1561394
3356.666476	1042.081986	3330.71822	2662.291129	457.7272467	1119.926756	414.1341756	12496.68039	1386.674834	14.53102371	11.41723291	871.8614224	21405.23585	1358.650717	1882.8055
3236.740807	939.3695717	3401.130482	2229.981679	1081.296061	1678.612582	640.2007842	11920.80408	1247.727844	54.11585576	4.084215529	1150.727725	37703.43566	1197.696204	1538.728201
626.0757613	167.9473074	637.0072429	423.3464672	212.6670046	419.371383	122.2338391	2495.359106	508.8107775	40.74461304	9.937710497	495.8917538	6691.060478	305.0877123	422.3526961
3370.70733	1379.895435	2730.699609	2187.662755	1574.806877	3549.133725	874.6772185	14797.75427	2172.147416	8.727378012	1.939417336	3279.554715	67483.96562	1915.174619	1423.532325
1832.351201	734.7055389	1982.381161	1531.18812	467.7404632	1057.93185	366.249608	4752.419612	955.3378328	47.4359432	20.96006793	995.0516458	16866.23571	371.7654153	803.10155
2516.332768	439.9109566	2042.744418	1182.918457	776.6848946	1439.708585	332.5642638	8426.715381	1898.563076	207.3264556	18.94353402	1834.365544	29463.50991	596.7213215	1215.543433
2122.578506	324.5631645	1778.638437	902.6408407	473.9268099	496.5331995	231.7154931	11137.68372	2999.383473	10.49582373	0	955.9273304	27271.37953	683.8432845	1797.207971
3821.284211	1049.500446	5307.736204	2116.356444	1620.191836	3113.790233	1043.374957	19336.12689	3043.34711	49.00391187	12.25097797	2949.422946	58168.6643	1732.492467	1784.559124
3305.028931	884.5723629	6553.509858	1912.53431	1116.823098	2310.389916	818.9362858	11669.08473	2886.977609	42.4110037	36.35228889	2356.840063	30580.35324	1189.527675	1780.25237
3262.231513	1269.563815	5897.428659	1826.353804	1187.956377	2247.820067	1146.636155	15430.00383	2833.534211	60.94732718	2.066011091	2455.454182	28867.33997	926.6059743	1431.745686
2942.764388	585.0484278	3181.261667	1863.199153	1145.760399	1227.530894	616.1990928	10604.85453	2390.813542	41.85870615	6.814207978	2274.972006	18230.92672	1188.592563	1439.7448
4240.80147	1142.872837	3619.276845	2054.155043	1674.992707	3409.229528	1067.471236	21200.77585	3394.149208	115.2567329	17.23465164	3376.914557	43720.00256	1534.961162	2081.084186
1465.299123	530.2001066	1443.552634	974.4498053	510.524712	980.6630878	261.993412	6536.373189	617.1860616	46.59961874	4.142188333	1080.075608	12246.37981	600.6173083	568.5153487
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1792.386444	485.6545241	4057.199468	1159.334827	714.3089888	1390.823851	613.2097007	6247.369092	1314.290745	34.01471375	4.724265799	1744.198933	26205.50239	693.5222193	855.0921096
4630.417657	1680.734328	4347.586154	3024.454875	2182.462242	2251.815561	923.2660527	20347.61347	3365.803239	935.1861544	39.01124166	4538.30778	63714.0268	2361.263766	2429.533439
3054.006261	1216.507186	3201.55818	2146.402732	1012.694464	2849.132014	1168.73858	12605.60457	2282.27788	93.41416439	15.92286893	2430.891323	58526.09704	1183.599924	1537.087614
3421.063495	1212.23731	3368.721643	2359.570722	1250.970281	2543.814043	949.4812088	12276.25814	2013.067657	49.20134158	49.20134158	2533.345673	48304.20222	1317.967852	1450.916158
4284.553112	1689.870327	4228.258219	2469.810477	1839.307678	3654.050313	774.8224332	13584.4694	2636.648069	368.4756618	8.18834804	3487.212721	69575.36975	1983.627313	1995.909835
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3994.729539	1236.124217	2730.071539	2471.22937	1135.236915	2433.524015	951.8054564	11735.53708	3093.877265	268.013742	8.152509263	2773.891277	54771.61442	1506.176086	1907.687167
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3546.529893	1397.219128	2802.237725	2236.219131	711.9800821	1783.84994	490.2523257	9384.989408	1780.50731	194.9867205	3.342629494	1281.341306	28054.68934	1412.818066	1065.184599
3998.167672	954.561185	3260.160435	1813.235298	1137.716266	2733.320233	636.733251	13357.39229	2515.688902	103.4287514	10.77382827	2627.736716	49494.96709	1254.073611	1666.711234
1994.785328	537.6395977	2077.567584	662.2580474	1037.89366	4955.363643	320.4474423	6407.168583	1877.287933	76.55133344	94.35396913	6110.754699	80750.08507	552.771838	993.3870712
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2141.146273	342.353526	2161.671065	970.4121529	598.5029268	1192.079904	458.934343	9087.556785	3479.362694	96.05602529	4.104958346	1902.237697	19492.8052	692.0959771	1699.452755
2632.240177	601.7672725	3884.938715	1772.853582	773.8412475	1959.676755	600.7839926	11141.54406	1910.512762	35.39807485	20.648877	1731.555828	28190.6335	1047.193048	1329.394367
890.5264655	297.555718	722.4824089	626.1514211	328.595703	468.8108076	123.0895956	3920.671206	786.7030675	17.12550895	36.39170652	701.0755227	6525.889255	391.7460173	378.9018856
3798.503553	1718.447757	3349.461928	2931.723685	654.1327516	1612.663912	568.8580199	14223.60935	1838.264152	84.19530466	22.66796664	1602.949069	31007.61951	1554.374855	2203.110472
2650.468482	790.8735979	2597.875884	1354.50748	815.6814272	2791.376952	628.1342378	7145.64715	2009.434173	172.6624919	172.6624919	1788.148336	25231.54702	698.5884729	1503.354455
3240.347021	1668.848251	3018.827283	5129.721649	1011.242571	3571.136585	760.9153337	7057.837396	2325.460569	39.73448218	114.2366363	1797.985318	55459.4035	879.1254181	1391.700238
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2403.632944	707.1984844	4095.857889	1978.47195	729.298437	1449.125466	538.8178928	12092.88361	2208.942885	46.30466267	2.104757394	1571.201395	37256.31063	816.6458688	1294.425797
4259.048504	844.8531634	4756.99013	1490.163543	975.7459071	1804.123061	891.5351909	18123.61066	3111.219829	118.9934033	20.13734517	2452.179442	49400.56905	558.3536616	1441.650848
2353.445709	743.6306831	2434.455756	1320.048322	910.8437278	3309.987412	624.1927941	7450.847096	1884.002876	154.7499606	150.5955992	2870.663698	30676.84286	657.4276849	1359.514754
2291.142197	779.4165978	2292.212824	1415.369152	1051.355905	2890.693426	494.629764	7811.296013	2196.927004	541.7373606	18.20066231	2147.678153	45363.54487	821.1710584	1092.039739
2906.466495	762.9347564	3980.264149	1040.273223	1215.006616	3606.415959	1075.829437	12053.55644	1972.861913	419.5633214	86.35080465	2397.504694	51357.39504	847.2537774	1429.35979
985.2212566	332.4242976	827.5456835	454.9492653	359.540479	844.6188347	207.8907239	4419.937564	851.6489558	26.11187836	17.07315124	850.6446528	15431.11581	477.0439316	511.1902341
1578.33597	376.5825205	1867.187178	574.3918004	726.6801164	968.3550526	259.8833218	9493.190131	1043.671557	57.10811849	6.621231129	1060.224635	18253.07891	655.5018818	1153.749524
2379.013268	778.1422246	2388.567538	1648.642394	1165.620959	1780.279005	757.9720987	8629.629118	2485.171825	84.9268458	56.26403534	2277.101053	12858.98604	1037.169104	1553.099692
2210.989033	627.9127042	2420.634154	1099.358562	751.6544586	1416.382891	493.9443585	8311.150728	1509.444872	219.8717124	10.22659127	1780.449541	36333.03348	785.4022098	1185.261929
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3230.4106	1139.268076	3983.179319	2002.769393	1123.297028	2665.035508	649.4892769	10854.98882	2078.365686	96.89102327	2.129473039	2274.277206	44982.98848	1037.05337	1294.719608
3705.215032	1537.876824	4285.937231	3399.298873	1391.65927	2709.691262	664.7195173	13564.01137	2192.226302	58.07221992	12.44404713	2788.50356	34069.72702	1646.762236	1351.216117
3446.658209	912.1034529	3066.264834	1918.779845	924.7131781	2341.205637	446.5944326	12026.52537	1476.388654	66.20105707	14.71134602	2247.683509	36804.6353	1156.942283	1538.386469
1815.576093	920.2662325	2194.081074	1382.998971	750.7708699	1143.833735	514.7251809	9221.379604	1318.528342	24.95637241	11.43833735	1428.75232	29098.09038	687.34009	1344.524563
2752.948166	889.157063	4549.929678	2078.957288	686.7633006	805.6450736	278.0457998	10329.94183	1248.749864	23.57985581	2.947481977	839.0498694	22096.28989	1128.885597	1830.386308
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3292.48566	917.6104957	5664.38479	1996.918841	997.9634148	2111.992157	740.0404647	13975.45585	1943.350228	14.8801702	8.928102121	2108.024112	41461.11424	1305.486932	1521.745406
2828.265584	753.4193439	2675.22728	1956.143453	1189.970917	2628.138571	668.0710589	11521.03747	2473.138237	75.53813735	11.77217725	2481.96737	43225.47283	1239.021655	1619.655386
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2697.8446	1284.011041	2357.652745	2230.673055	678.4884909	1733.178003	501.2854912	14157.28779	2152.021457	100.4466202	11.37131549	1576.822415	26481.89856	1084.06541	1569.241538
2261.742982	768.3245055	4015.527179	1297.898557	1056.200567	2351.151588	522.6964666	6370.608815	1689.920907	55.0206807	10.80763371	2066.223063	41432.53759	571.8220744	992.3372769
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3789.978635	1616.434021	4292.191469	2430.750782	1278.914464	2951.26287	736.0366234	15633.66187	2223.359248	88.44638982	14.23275239	2713.37258	51910.91445	1259.598586	1603.217894
1888.755433	392.0740883	1033.715631	959.2070868	343.6073652	591.0046681	203.2708834	12995.59224	1280.38955	5.063687487	329.8630706	528.7936504	9811.979582	1289.070157	1191.413327
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1612.145111	708.1923165	1775.278842	805.1129452	1154.411053	3991.978369	537.3817036	6569.491326	1528.659025	542.1797545	692.8385535	2939.285997	17418.84408	591.1198739	1293.554529
2775.527835	951.9627764	2567.414761	1734.962463	928.2667332	2474.691113	624.3392235	9904.94603	1961.620266	74.17891764	7.211839215	2108.947839	38425.7096	1153.894274	1309.463949
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2350.436785	529.6894349	2832.060028	938.2520662	663.3134484	1704.427165	574.8716553	7959.761381	1796.714254	44.22089656	8.651914545	1737.112176	28198.51215	769.0590706	1193.002883
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1844.027615	340.8051038	2665.639919	745.611166	660.809896	1112.816665	407.2060981	10940.96385	2240.033546	78.4011741	7.200107826	1474.42208	29142.83643	820.0122802	1859.227843
2492.896351	504.6917397	2085.67372	1514.075219	366.7481709	575.7285475	350.227983	12958.43537	1639.628647	49.56056363	8.260093939	811.9672342	9944.327093	1172.933339	1979.118508
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2921.608353	1497.048509	4103.488754	1794.35709	1372.031826	2413.13714	901.3807863	15883.42204	2240.845241	128.1683635	8.404482856	2776.631023	54029.2686	1015.891865	1052.661478
2516.635958	1085.164382	3059.218149	1055.363466	1221.837548	3284.266444	714.1943613	9113.942145	1351.317389	155.1702857	150.0321968	3007.83726	40563.15687	1131.407182	911.4969763
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1968.078252	590.1356045	1713.792178	1044.971826	809.8771548	1186.9882	381.9088953	13493.47459	1908.584906	193.8331579	6.71699062	1450.869974	20433.08547	828.1089865	1041.133546
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1970.274298	548.8021257	1707.073279	3698.814327	728.9361568	562.8021799	1090.137556	1239.471468	2325.875676	601.0689948	3778.147967	798.9364279	2594.676717	6916.960125	2623.610162
2556.502279	3945.622141	1418.933299	2611.470805	890.6764501	557.1386163	1202.785876	1752.471133	4217.669759	804.0311469	2463.335287	1200.922536	3437.86203	16249.2552	3858.045167
879.7927442	587.8799443	318.2660388	1172.71913	413.5431332	166.2281222	439.8963721	597.0022193	788.5699942	281.7769388	809.8553026	388.2034804	1516.324822	4106.037335	786.542822
590.8036297	335.4181946	673.5341227	2266.096114	240.0982787	304.843882	330.9219722	432.5365995	1203.189127	224.8111224	1158.226903	316.5340604	2293.073449	2437.851811	1396.526692
3324.261943	882.0480617	1294.858434	3233.186273	1275.059375	561.303312	2417.465058	3262.884861	4533.984425	1296.83834	3972.681113	1623.522807	5049.749902	21605.72272	2643.174326
2579.845299	2272.175597	1634.930907	2449.409277	956.8627296	496.8517191	1536.357119	2427.50399	3687.057948	567.5460519	3657.187103	1170.937118	5702.344279	16851.13927	4239.668577
2269.288133	1047.988672	1295.31761	4057.458297	945.0853919	617.419683	820.5182629	812.3943197	1979.534159	552.4281374	2805.468384	1166.237179	2992.319078	5628.989975	2610.493747
3224.585225	967.7821987	1412.026758	3081.247735	970.8319325	470.6755861	1274.788736	2614.638461	3358.773513	809.1960401	2942.993136	1025.727141	5897.168629	21437.59559	3302.861726
3320.600869	1049.032268	1379.134873	4363.404786	1236.772564	679.7800279	1328.418301	1932.568351	3936.317858	889.7644344	5061.869867	1031.236979	5172.200657	18393.21039	4057.325821
4301.878641	1020.411486	1726.204837	4290.342642	808.5686085	692.1598983	1916.024446	3155.6199	5827.776598	1022.508941	5446.039927	1173.525646	6669.904474	28296.75511	3531.064208
2359.666228	2357.662265	1433.835402	3100.130493	657.2998071	530.0481676	1272.516395	2064.081711	3497.917114	831.644573	2175.301648	997.9734876	5984.834982	18833.24264	3119.16814
1422.718595	556.7159721	957.1607942	3473.77744	657.6410899	423.2343648	644.618494	437.8847851	1674.217478	376.0274548	2436.039334	1124.826716	3613.770345	2808.81114	2832.414595
2393.022336	1135.231516	1065.642759	2296.428987	666.8057031	369.7551874	2039.88536	2408.601909	2969.466519	703.1580389	2893.645933	1117.574667	5223.311341	16688.83806	1474.866197
2919.697835	662.1995089	1264.199062	3537.266342	709.9443011	616.5305772	1681.447029	3003.770186	3088.880468	1078.409545	2648.798036	784.6752801	6760.039814	26799.35944	2798.259994
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462.1035381	324.9631333	305.0877123	817.8735739	104.3459602	146.0843443	405.4585883	562.4744141	643.9636402	173.9099337	680.7331691	204.7168362	1072.278963	4694.574439	536.6363668
4831.088584	2145.965282	2007.296943	4583.812874	1751.293854	848.4950845	4197.868824	4768.057521	6453.411186	2061.600628	4715.693252	2247.784692	3793.500309	31502.9255	1917.114037
1673.49595	1587.449355	1052.416042	2135.720606	749.046638	280.2030133	1087.717209	1783.812097	2602.357907	712.6423095	2069.530917	1054.622365	3912.913733	11983.64305	1360.198092
1844.889729	885.0840059	1002.954884	1839.627637	912.4468884	313.6207298	1424.974725	2023.800884	2158.510459	765.1082905	2713.135038	1143.978971	6029.30591	10797.81439	2795.223686
1088.336184	559.5081419	1480.718517	2754.750043	191.3469403	345.554812	461.008873	959.9641857	2352.679257	390.7675911	2343.798176	257.5513669	4191.870523	10541.03651	3070.432126
3934.605757	2200.07146	1673.279407	4457.31415	584.9841979	680.950192	2297.058369	3478.256828	4724.793836	1027.04032	5390.430305	1046.437701	4321.532478	33205.25486	3721.234557
2884.958038	5580.076344	1383.406549	2959.682187	718.9674913	494.7950432	1522.75699	2142.765473	3795.784831	867.4060043	2820.331746	1042.098948	6271.779619	23970.29538	3433.271728
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3646.205989	1147.1815	1868.882538	3898.262769	1021.15311	589.2096531	2916.964791	3049.456175	4800.927649	1075.011396	4896.795399	1356.151651	8192.922526	27587.29145	4902.181227
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1894.865176	564.6881699	1600.289579	5081.174236	851.1094257	745.1029823	1745.029146	2375.971343	3446.228705	884.7460856	3972.183751	1052.929385	4392.132354	16699.07272	4246.373494
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4242.148042	1052.441308	2583.06877	4903.836783	1589.995946	814.967372	1961.318828	3276.060893	3996.03869	1245.658738	4191.414974	1479.894393	5832.143988	20673.18557	3001.886439
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3531.239964	1126.624028	1602.061399	3491.620184	891.9530175	449.0241842	2090.705364	3485.524833	4956.536187	897.0324766	4435.383684	1345.040769	6396.054895	25249.99117	2388.361668
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2066.430946	2149.632192	1238.418546	2881.643154	636.8095366	439.2065774	640.0095845	426.4063857	1154.417288	475.2071165	2275.234073	509.6076317	2970.444484	7856.11765	2632.039416
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1744.50296	1428.082603	19019.79713	11938.05809	800.4806373	8673.270571	1296.066163	4073.650154	9184.572339	13317.94422	8163.016552	3129.627832	12745.87298	5655.751938	3290.981259
1284.506601	834.4048075	11530.04403	11096.15353	1115.718428	5888.513927	1032.75475	1873.834796	7287.453188	7010.907594	3770.556125	5134.211981	6839.258605	4604.960932	3931.715453
1628.239311	283.0011596	7011.157201	9239.791333	777.2705461	2733.712591	712.4161136	2506.722077	6674.110681	10665.6062	3908.953517	6391.109522	11235.53909	5021.305298	1227.321001
2420.372897	626.144639	15855.49364	13576.54307	1396.950281	5733.541685	2084.629824	6854.124677	9910.358251	12885.62485	4229.714992	3509.648657	13531.20156	4406.762787	3773.06123
2719.095363	1735.022155	22821.42102	16437.32345	1883.561507	7877.74328	2025.911719	4709.935291	6222.148417	8216.082915	5429.938539	5903.407724	14614.62181	5438.190725	4011.594031
2376.896331	608.0654469	28804.35614	10747.58064	2002.70221	6807.087444	2029.430361	2929.596321	14230.83153	11816.7067	5183.35224	7176.508681	11132.2751	7326.377245	3677.984563
701.5401376	368.2625394	6859.810453	2805.239894	437.3117656	1742.802468	428.1052021	1117.676807	3108.135833	5454.888865	1014.563296	731.0011407	2701.205727	1099.26368	1172.916188
2387.408118	583.1371317	16273.99602	13802.26667	1478.161196	8311.228004	1772.777517	3885.887681	12358.6467	11864.91039	5176.103983	3791.407274	11970.56589	4664.081135	3477.488505
714.8443359	257.8616755	3743.474517	5024.818055	546.5871036	2863.359763	424.1276979	1601.928324	8064.399889	3715.597579	1206.673169	1867.754839	5079.576325	1348.049068	1365.969957
4296.792609	557.7266051	14747.37765	19225.9014	1844.466638	4754.253757	1251.22935	10177.98833	9303.798872	16792.3752	9293.354554	3989.729647	38306.62677	5537.57764	2644.501431
1947.874211	824.1365255	21080.34832	9079.501835	976.2704481	4622.817906	1910.540734	3571.880502	12446.98155	14231.52179	1774.273539	1278.671619	4843.085426	1788.273593	2851.344378
2371.099964	703.4107948	18974.38973	9589.678558	1554.957108	3928.852082	2599.359096	3190.9695	12516.0538	11598.35892	5028.222596	2210.852737	8324.470797	2486.627035	1890.358282
625.3826304	195.6221194	8279.984939	3897.238596	344.6192777	1767.694177	505.7794693	1475.781377	3093.46481	4873.322021	1296.376636	804.787372	3327.603202	1076.42845	647.6815248
934.3150247	492.7859803	12669.45561	3191.418694	371.3879742	2799.348096	1404.619893	1365.95238	3103.292734	7671.454741	834.4988864	517.964826	1801.186713	954.997648	817.4132411
2814.436184	736.5249808	26389.17529	14957.19884	1213.682294	4301.345486	1101.817612	7391.978538	11360.69984	9736.187079	5315.057288	4343.913462	18791.28654	4687.427129	2653.073856
2846.691513	360.4415277	29726.46909	8812.894921	1495.533631	7107.269681	2171.61042	4558.290922	7338.270881	11403.69286	6009.018286	2019.269111	15903.23779	3720.911572	2527.073473
1724.081278	1205.954235	23128.86628	8438.069001	732.0575481	4683.001923	2060.773591	6268.976167	6488.322633	12979.35325	2017.445894	1306.149534	4810.277033	1418.079418	2136.597061
2266.968806	619.0959653	16007.03624	11866.51429	1271.739003	8960.117961	1255.473756	2703.080742	10441.27202	15307.63062	4876.524377	3204.253666	10599.85818	4944.635099	2613.621883
2098.954301	1248.339501	32734.43354	14325.20739	1464.552259	7918.903466	2119.418883	6337.792066	6796.910514	3256.53783	5061.869867	2456.639603	11000.1577	3671.168056	3500.333285
2121.574961	3994.601595	17578.76396	12859.49193	1813.249188	5732.34243	1709.425203	4937.407274	8622.634369	15570.45153	5417.724295	3449.263493	13887.2445	4722.418215	3396.827137
1960.877626	1051.078503	18324.23609	11287.32062	1391.752183	5988.842907	1685.332737	2274.497808	10182.13512	14716.10102	4451.803419	2141.23428	8446.703314	3333.592162	1934.826109
1189.125783	427.303926	22064.34691	5685.176996	648.6880552	4231.529735	2875.551944	4810.221338	4316.990521	10256.92205	1092.270226	839.9574316	3541.332156	884.7226048	1911.879852
1305.568176	695.8875717	8036.982134	8807.651654	864.1469547	5709.394003	935.8129883	2209.183381	3939.554567	7940.388785	3259.246567	3629.001755	11318.0401	4051.727489	2864.564064
2677.860083	672.5788115	17315.79061	10675.11277	1487.354069	4245.134783	1343.081763	4001.221171	8827.596902	13581.31751	5820.712925	2222.208697	17613.67659	3613.035252	2700.694549
2087.034135	584.0428207	15189.19755	17213.9474	1197.696204	6901.30319	1247.727844	4112.805038	7026.892818	10914.04495	5059.321987	4948.027114	12888.76316	6384.649926	5732.196495
460.115996	254.4053887	5394.189258	1852.389237	273.2870387	1149.793105	226.5797993	505.8294643	1619.846811	2165.427117	650.9200376	801.9732371	2343.312135	1026.565494	713.5276137
1952.023549	241.4574583	23028.64145	14141.26151	1414.804947	4082.473492	1147.165354	5026.000026	10553.33943	10377.82216	4341.385707	3992.290586	19421.3252	5934.617048	3351.313157
1563.179803	644.2462984	8591.421527	8270.401539	707.1265021	3725.376284	831.7837482	2269.203143	4499.795635	7163.930585	2704.951924	3490.40289	7530.180193	3492.609213	1872.065014
2081.683905	758.7937792	14765.43235	8136.24786	971.3823276	4394.899892	1358.672356	3158.308088	8258.328412	12922.64745	3406.678867	3841.327731	8465.654868	2917.304238	1995.385583
1770.564726	891.3376459	21472.84061	4928.192926	809.7931693	5664.515329	1425.009914	1327.318016	7946.145934	18093.18537	2067.677275	989.8369148	4209.632686	1433.890996	1761.683644
2823.850421	285.8561526	30726.47366	14312.20501	1963.219219	5750.813241	1813.144739	5058.632985	11387.28402	17862.94679	5517.023744	3689.586198	18162.07484	4652.308883	3552.78361
2065.011966	995.6488012	17287.53294	11056.14475	1463.179628	5696.201712	2062.992394	2994.014904	11161.16247	17367.30602	3858.391551	2526.484078	9609.121696	2924.339684	2329.575846
2616.603047	1336.709176	20906.99923	17330.73404	1759.208444	8089.466426	3214.713257	6338.522027	15934.11054	19534.13486	5897.428659	4466.715979	15469.25804	4345.85433	4082.437916
2547.540325	722.3060456	17559.2405	8756.257251	2059.837726	6595.179864	2714.97515	3124.801087	10079.18706	14581.43161	4827.379623	2140.634763	11331.05441	4028.170373	2270.104715
2946.048266	1080.397225	20584.63706	15478.87151	2120.939318	10101.6602	2357.915778	5436.455428	7135.145781	9319.637877	6525.469979	3710.835932	19143.38931	5153.160842	4019.982496
933.027922	383.1524208	7943.681675	6488.738023	649.2880212	1845.344902	577.8352724	1976.859382	3931.972275	4951.986152	2652.03608	1614.417903	9753.817977	2390.042668	1258.189706
2753.989914	1361.179548	14807.44041	14573.37235	1597.356324	5869.625516	1723.879598	7321.480076	11259.51696	13148.93117	7912.976379	5563.860939	17876.68414	6468.502343	3955.961009
1261.378968	841.8641653	14667.90045	7987.788612	1052.56642	4346.324535	742.6545836	1381.37532	8338.329135	5966.747704	3607.449364	3695.320708	5949.740347	3795.475143	2191.114477
2991.945507	723.875262	24437.29197	16698.97872	2281.073992	7754.567927	2200.884217	6559.306828	9227.242299	10115.83169	4452.699778	5184.160559	23987.57904	7864.016132	5443.151858
2653.811488	2265.293487	18578.80347	14342.25881	1317.352023	6840.464493	1229.245481	3995.578577	5752.401782	6518.82254	5683.402684	4669.646695	16404.8011	6083.597456	3714.274559
2641.16989	1823.59015	20230.12609	15579.02905	1625.737946	5513.690768	1375.54389	4557.928537	8822.742699	10223.41068	6150.167698	4865.698631	18169.95076	6011.985206	3693.24113
3045.041927	584.4433413	19918.15661	14470.85807	1410.44295	8556.823701	1517.915018	6732.869176	13308.11265	12252.8393	6175.037965	4077.797324	19802.49619	7206.769818	4033.784953
2002.863242	838.211956	15594.32268	12433.12634	1403.689117	6300.279062	1340.507312	3124.340293	9808.97534	11463.28562	5559.998904	3873.044691	12562.64904	4029.946176	3143.294835
3005.414465	1530.364421	27984.97723	13094.14216	1467.879662	6587.532524	1179.015695	4605.434027	5579.58166	6487.147173	6975.757501	3533.974064	18396.1276	5383.932661	3511.438577
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3140.957514	1132.037188	10078.02792	9237.91371	1298.054453	7534.286878	1782.73573	2991.653397	8322.033229	18723.182	4956.005329	3962.13016	12011.18198	5193.332023	3871.879163
2494.141245	828.5073942	18328.43666	11532.30578	1457.698965	5966.546098	1162.496071	5381.527222	7530.905963	12919.97487	4332.156349	3345.273679	16950.46402	5044.306398	3321.571257
1673.447754	260.8086128	6111.64483	9968.585851	736.1389855	1994.785328	664.9284428	2924.973043	5173.44593	6796.156172	3497.32778	3813.324564	9083.794858	3066.503997	2478.126887
1955.003447	1924.424666	19243.22736	11217.31644	1597.231701	9012.586278	2433.051735	3632.759273	8011.640822	26426.1832	3750.997229	2629.775231	10598.60576	2845.865289	2740.878139
1821.780514	595.2189601	29769.97891	6659.063428	983.5480196	3920.23522	1408.000713	1964.633064	9224.662394	27340.66456	4091.822479	880.924061	3744.543003	2035.238348	2168.238998
2140.600249	737.4598928	17781.63293	9142.536111	1032.44385	3862.323278	1265.481176	2930.173974	9036.341886	9372.623597	3865.273118	2443.450445	11106.14598	3872.156077	2648.955935
656.1210617	156.2702692	5263.953314	3388.710084	385.3239514	1167.745642	317.8922599	1439.613096	2465.002945	3996.665652	1526.310985	1066.062932	6492.708582	1114.228426	1052.148456
3266.34605	1251.055873	24906.6982	14917.6809	1410.811067	6556.439494	1910.58576	4291.801684	12343.24755	14693.16009	6850.043633	4415.935787	13351.43235	6105.239015	3408.830412
1943.941504	616.2264797	12911.97899	7557.457116	972.4669084	3990.091264	1167.952603	2089.81154	9493.460115	11994.08931	3495.919304	3101.970975	7311.36345	3872.99831	1520.223779
2877.769872	688.3999037	13423.30144	14977.91306	1128.459294	8006.498158	928.7935208	4799.925447	17105.69458	12997.14912	4528.737606	6341.623355	16525.57114	6777.709297	3059.555127
2278.608133	2006.838227	12932.39409	9089.080862	1092.14996	4860.422244	1418.679474	2866.766886	10096.04921	12882.70482	6094.541558	4289.502627	13355.25995	4610.961808	2972.229835
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1750.118362	1103.892649	36111.7519	9413.293535	1169.796688	6733.195959	1701.605667	2931.814391	11303.45798	17152.44142	3152.409854	2319.45603	6871.411374	2469.570785	2951.036402
1823.764636	360.3908478	9476.098258	10014.08805	1018.857123	3222.745824	889.0333306	2534.160428	6100.679654	9077.279568	3978.839591	4149.168406	9759.633421	4157.477129	1482.068415
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644.7625349	165.7099973	5279.620944	3666.710304	218.938057	1598.850398	565.4225968	1134.862406	3125.390979	4875.891132	1175.034526	765.2788966	4361.687989	1151.935557	903.8727125
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1812.146271	1264.550669	10472.06023	12607.11855	1509.557361	5742.414914	1463.265774	3503.482791	7319.716061	10854.81262	4185.436902	5112.397705	11848.38814	4835.777246	3883.977055
1773.266015	263.5164626	5116.214931	8304.098202	731.5673637	2091.007887	755.3504379	1970.18987	4729.977805	8114.784931	3756.774407	7763.746755	11756.44926	6504.195144	1452.670175
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2222.105116	1013.629167	12356.26731	13290.04124	1554.515318	5244.892095	1087.095986	3738.28992	10502.56103	10003.1996	4487.86443	3753.196231	15274.71011	5205.496844	3592.421017
3566.256506	609.7583092	20702.7464	18445.18885	1931.938316	5788.555922	1606.319083	5536.563967	9541.473134	11541.85371	6512.384663	4677.924716	22683.4239	5015.987996	4433.191789
2310.732135	3327.916631	13733.04151	11999.2043	1110.706624	5810.981676	1179.009302	3477.131712	9664.303522	12732.66998	4838.982029	3328.967441	13592.23291	3592.720859	2821.426004
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1971.839689	1025.160435	19138.61716	12234.23521	1675.573228	7153.559708	1605.92118	3292.285571	13900.9793	13140.69285	4188.933071	3605.229282	15582.43862	4288.015563	2920.480972
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1596.582252	2112.401134	11912.95988	13215.771	1002.162398	4832.977292	959.9143758	2090.785867	6502.265444	5335.041003	3902.538281	4921.403386	7584.011327	5015.724553	2880.725639
1795.360079	583.1364547	15128.72588	6887.136928	1065.618962	4196.83197	1130.168776	3137.777396	4283.263077	6067.68251	3344.555614	3462.714595	8148.593461	3044.781901	1998.856103
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	Circular RNA		Linear RNA	
Gene ID	**Forward primer**	**Reverse primer**	**Forward primer**	**Reverse primer**
CADPS2	GAAGTCAGTTGCTCCCAATCG	GTTCCCTTCTGATCTGGGCT	ATTGCCACTCCCATACCAGC	GCAGGAGATGCCTGGTTCAT
EPB41L5	GGGCCTGTAGCTGGAATACG	TCCATAGTGTCAGATGCCCCA	CATGCTTTCTTCCGCCTTCG	CATGCTTTCTTCCGCCTTCG
UNC13	AAGCAAATGGCAGAGTTGGAAG	CAAACCAGAAGCAAAGCTCCA	GAGATGTGGCCATGACCCTG	CACTTCATGCCTTGCCTTGC
USP45	AAATATTCATCAACCTAGAGCTGCC	GGCCTTTTACTTCTTTTGGCTTTCT	GACTTTTCTGGAAGCGTCGTG	GACTTTTCTGGAAGCGTCGTG
ARID1A	CCAGTAAGGGAGGGCAAGAAG	CTGTTGCTGCGAGTATGGGT	AGCCGAATCTCATGCCTTCC	GCCGCTTGTAATTCTGCTGTT
GUSBP1	CGTGTATGGAGTGGAAACGC	GCCTGGTTGTCCACGACTTT	AAAACACTGGGGCTGGTGAAT	TGTTCGTGCATCAGGTACGG
PLOD2	AGTATTGGAGGGGGCCAGAA	GGAATCCATCACTTTCTTTTGTTGC	CATGGACACAGGATAATGGCTG	AGGGGTTGGTTGCTCAATAAAAA
VCAN	AGAAGCTGCAGAAGCTAGG	AACATCAGGCTCACCACCTG	AGGTGGTCTACTTGGGGTGA	CGATGGTTGTAGCCTCTTTAGGTTT
EGFR	AAACAACACCCTGGTCTGGA	GGGTGGCACTGTATGCACTC	GACAGGCCACCTCGTCG	TCGTGCCTTGGCAAACTTTC
HLA-B	TGGCTGTCCTGGTTGTCCTAGC	CACCCCCACCACTTACACGCA	ATGGCGAGGACCAAACTCAG	CACAACTGCTAGGACAGCCA
Intergenic circRNA	GCCTCTCACAGGACGTTTTC	GCCCAACACCCAACACACAT	-	-