DNA methylation markers for diagnosis and prognosis of common cancers

Xiaoke Hao[a,1,2], Huiyan Luo[b,c,1], Michal Krawczyk[c,1], Wei Wei[b,c,1], Wenqiu Wang[c,d,1], Juan Wang[a,1], Ken Flagg[c], Jiayi Hou[c], Heng Zhang[e], Shaohua Yi[c], Maryam Jafari[c], Danni Lin[c], Christopher Chung[c], Bennett A. Caughey[c], Gen Li[f], Debanjan Dhar[g], William Shi[c], Lianghong Zheng[f], Rui Hou[f], Jie Zhu[c], Liang Zhao[f], Xin Fu[c], Edward Zhang[c], Charlotte Zhang[c], Jian-Kang Zhu[e], Michael Karin[g,2], Rui-Hua Xu[b,2], and Kang Zhang[c,h,2]

[a]Department of Clinical Laboratory Medicine, Xijing Hospital, Fourth Military Medical University, Xi'an 710032, China; [b]State Key Laboratory of Oncology, Sun Yat-sen University Cancer Center, Guangzhou 510060, China; [c]Institute for Genomic Medicine, University of California, San Diego, La Jolla, CA 92093; [d]Shanghai Key Laboratory of Ocular Fundus Diseases, Shanghai General Hospital, Shanghai 200080, China; [e]Shanghai Center for Plant Stress Biology, Shanghai Institute for Biological Sciences, Chinese Academy of Sciences, Shanghai 210602, China; [f]Guangzhou Youze Biological Pharmaceutical Technology Company Ltd., Guangzhou 510005, China; [g]Department of Pharmacology, University of California, San Diego, La Jolla, CA 92328; and [h]Veterans Administration Healthcare System, San Diego, CA 92093

Contributed by Michael Karin, May 24, 2017 (sent for review March 3, 2017; reviewed by Hakon Hakonarson and Wei Zhang)

The ability to identify a specific cancer using minimally invasive biopsy holds great promise for improving the diagnosis, treatment selection, and prediction of prognosis in cancer. Using whole-genome methylation data from The Cancer Genome Atlas (TCGA) and machine learning methods, we evaluated the utility of DNA methylation for differentiating tumor tissue and normal tissue for four common cancers (breast, colon, liver, and lung). We identified cancer markers in a training cohort of 1,619 tumor samples and 173 matched adjacent normal tissue samples. We replicated our findings in a separate TCGA cohort of 791 tumor samples and 93 matched adjacent normal tissue samples, as well as an independent Chinese cohort of 394 tumor samples and 324 matched adjacent normal tissue samples. The DNA methylation analysis could predict cancer versus normal tissue with more than 95% accuracy in these three cohorts, demonstrating accuracy comparable to typical diagnostic methods. This analysis also correctly identified 29 of 30 colorectal cancer metastases to the liver and 32 of 34 colorectal cancer metastases to the lung. We also found that methylation patterns can predict prognosis and survival. We correlated differential methylation of CpG sites predictive of cancer with expression of associated genes known to be important in cancer biology, showing decreased expression with increased methylation, as expected. We verified gene expression profiles in a mouse model of hepatocellular carcinoma. Taken together, these findings demonstrate the utility of methylation biomarkers for the molecular characterization of cancer, with implications for diagnosis and prognosis.

DNA methylation | cancer diagnosis | cancer prognosis | gene expression | survival analysis

Accurate diagnosis of cancer based on histological subtype, as well as other markers identified via histology and immunohistochemistry, is crucial for choosing the proper treatment and for predicting survival (1). For some primary tumors, complex anatomy may prevent accurate identification of the tissue of origin or tumor type. Tissue must be obtained from these tumors either from surgical resection or from a tissue biopsy. Diagnosis in these cases may be limited by the patient's tolerance of surgery or by inaccessibility of the tumor, preventing acquisition of a tissue sample of adequate size and quality that preserves tissue architecture. Even when high-quality biopsy specimens are obtained, diagnostic uncertainty may persist, hindering treatment decisions and prognostication. Thus, there is a need for strategies to improve diagnostic certainty. Molecular characterization is increasingly used to predict tumor prognosis and response to therapy and offers great potential for improving understanding of an individual patient's tumor (2–4). Importantly, these methods may have specific utility in scenarios of limited tissue availability or quality.

Methylation of CpG sites is an epigenetic regulator of gene expression that usually results in gene silencing (5, 6). Extensive perturbations of DNA methylation have been noted in cancer, causing changes in gene regulation that promote oncogenesis (7–9). Understanding both epigenetic changes and somatic DNA mutations show promise for improving the characterization of malignancy to predict treatment response and prognosis (3, 10–12). Some changes in methylation are reproducibly found in nearly all cases of a specific type of cancer. In contrast, somatic mutations are often neither specific nor sensitive for a particular type of cancer. Even within commonly mutated genes, individual mutations may be found across tens or hundreds of kilobases, limiting the utility of targeted sequencing of molecular markers (10, 13, 14).

Consequently, to explore the utility of DNA methylation analysis for cancer diagnosis, we analyzed whole-genome methylation profiles of tumors and matched normal tissue from patients with four of the most common cancers to identify potential cancer-specific DNA methylation markers. We then verified these methylation markers in two other independent patient

Significance

The ability to identify a specific cancer using minimally invasive biopsy holds great promise for improving diagnosis and prognosis. We evaluated the utility of DNA methylation profiles for differentiating tumors and normal tissues for four common cancers (lung, breast, colon, and liver) and found that they could differentiate cancerous tissue from normal tissue with >95% accuracy. This signature also correctly identified 19 of 20 breast cancer metastases and 29 of 30 colorectal cancer metastases to the liver. We report that methylation patterns can predict the prognosis and survival, with good correlation between differential methylation of CpG sites and expression of cancer-associated genes. Their findings demonstrate the utility of methylation biomarkers for the molecular characterization, diagnosis, and prognosis of cancer.

Author contributions: X.H., M. Karin, R.-H.X., and K.Z. designed research; X.H., H.L., M. Krawczyk, W. Wei, W. Wang, J.W., K.F., H.Z., S.Y., M.J., D.L., C.C., G.L., W.S., L. Zheng, R.H., Jie Zhu, X.F., E.Z., and C.Z. performed research; J.H., B.A.C., D.D., L. Zhao, and Jian-Kang Zhu analyzed data; and X.H., M. Karin, R.-H.X., and K.Z. wrote the paper.

Reviewers: H.H., Children's Hospital of Philadelphia; and W.Z., Wake Forest Baptist Comprehensive Cancer Center.

The authors declare no conflict of interest.

[1]X.H., H.L., M. Krawczyk, W. Wei, W. Wang, and J.W. contributed equally to this work.

[2]To whom correspondence may be addressed. Email: haoxkg@fmmu.edu.cn, mkarin@ucsd.edu, xurh@sysucc.org.cn, or kang.zhang@gmail.com.

This article contains supporting information online at www.pnas.org/lookup/suppl/doi:10.1073/pnas.1703577114/-/DCSupplemental.

Table 1. Confusion table of the TCGA training cohort

Training cohort	Breast cancer	Colon cancer	Liver cancer	Lung cancer	Normal breast	Normal colon	Normal liver	Normal lung	Total
Breast cancer	520				6				
Colon cancer		275				5			
Liver cancer			238				9		
Lung cancer				584				6	
Normal breast			1	1	59	1			
Normal colon						21			
Normal liver							23		
Normal lung								43	
Total	520	275	239	585	65	27	32	49	1,792
Correct	520	275	238	584	59	21	23	43	1,763
False-positive					6	5	9	6	26
False-negative			1						3
Wrong tissue				1		1			3
Correct (%)	100	100	99.6	99.8	90.8	77.8	71.9	87.8	98.4

Orange indicates cancer sample, purple indicates normal sample, and gray indicates correctly diagnosed sample number of each training cohort.

cohorts. We also used methylation patterns to predict survival and analyzed the utility of combining methylation with mutational status in several tumor types. Finally, we correlated specific methylation patterns with gene expression in genes known to be important in cancer biology.

Results

Characteristics of Patients and Tissues. Clinical characteristics and molecular profiling, including methylation data for a training cohort of 1,619 tumor samples and 173 matched adjacent normal tissue samples, as well as a validation cohort of 791 tumor and 93 matched normal samples, were obtained from The Cancer Genome Atlas (TCGA). A separate validation cohort of 394 tumor samples and 324 matched normal samples was obtained from Chinese patients with cancer treated at the Sun Yat-sen University Cancer Center, West China Hospital, and Xijing Hospital. Matched adjacent normal tissue samples were collected simultaneously with tumor tissue from the same patient and were verified by histology to have no evidence of cancer. Clinical characteristics of all patients are summarized in *SI Appendix*, Tables S1–S3.

Methylation Profiling Identifies Cancer-Specific Methylation Signatures. To identify a cancer type-specific signature, we randomly split the full TCGA dataset into training and test cohorts with a 2:1 ratio in each of the eight types of sample groups. We first performed the prescreening procedure to remove excessive noise on the training data using the moderated *t* statistic (15). For multinomial classification, we used lasso (least absolute shrinkage and selection operator) under a multinomial distribution. A multiclass prediction system (16) was constructed to predict the group membership of samples using a panel of markers. Hierarchal clustering of these samples according to differential methylation of CpG sites in this fashion could distinguish the cancer tissue of origin, as well as differentiate cancer tissue from normal tissue in our TCGA training cohort (Table 1). The overall correct diagnosis rate was 98.4%. We then applied these markers to a TCGA validation cohort (Table 2), and found a slightly decreased but statistically similar correct rate of 97.1%. We also confirmed our results in an independent cohort of Chinese cancer patients (Table 3), which also showed a decreased but similar correct rate of 95.0%. Of note, the methylation analysis of the Chinese cohort was performed using an alternative bisulfite sequencing technique in a different ethnic and geographic background than the TCGA cohorts. Overall, these results demonstrate the robust nature of these methylation patterns in identifying the presence of malignancy as well as its site of origin (Fig. 1 and *SI Appendix*, Table S4 and Fig. S1).

Methylation Block Structure for Improved Allele Calling Accuracy. We used the well-established concept of genetic linkage disequilibrium to study the degree of comethylation among different DNA stands. We used paired-end Illumina sequencing reads to

Table 2. Confusion table of validation cohort 1

Validation cohort 1	Breast cancer	Colon cancer	Liver cancer	Lung cancer	Normal breast	Normal colon	Normal liver	Normal lung	Total
Breast Cancer	268			1	4				
Colon Cancer		129				7			
Liver Cancer			136				4		
Lung Cancer	1			252				5	
Normal Breast	1		1		28				
Normal Colon						11			
Normal Liver			1				14		
Normal Lung				1				20	
Totals	270	129	138	254	32	18	18	25	884
Correct	268	129	136	252	28	11	14	20	858
False-positive					4	7	4	5	20
False-negative	1		1	1					3
Wrong tissue	1		1	1					2
Correct (%)	99.3	100	98.6	99.2	87.5	61.1	77.8	80.0	97.1

Orange indicates cancer sample, purple indicates normal sample, and gray indicates correctly diagnosed sample number of each validation cohort.

MEDICAL SCIENCES

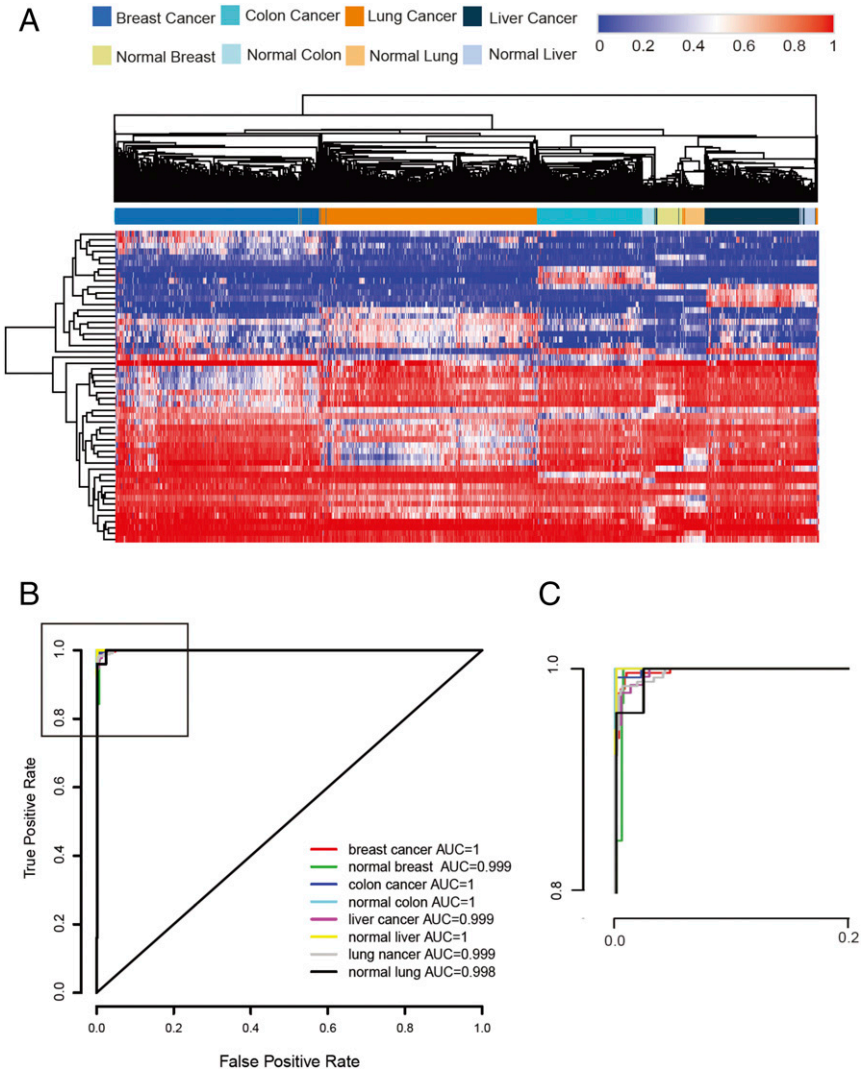


Fig. 1. Methylation signatures can differentiate different cancer types from corresponding normal tissues. (*A*) Unsupervised hierarchical clustering and heat map presentation associated with the methylation profile (according to the color scale shown) in different cancer types. (*B*) ROC curve showing the high sensitivity and specificity in predicting different cancer types. (*C*) Zoom-in view of the block diagram in *B*.

identify each individual methylation block (mBlock). We applied a Pearson correlation method to quantify the comethylation of mBlock. We compiled all common mBlocks of a region by calculating different mBlock fractions (*Methods*). We then partitioned the genome into blocks of tightly comethylated CpG sites that we termed methylation-correlated blocks (MCBs), using an R^2 cutoff of 0.5. We surveyed MCBs in cancer and normal tissues and found that MCBs were highly consistent among different cancer and normal tissues. Overall, we found ~3,600 MCBs, approximately one-half of which were incomplete/disrupted (*SI Appendix*, Fig. S2) owing to short a span of sequenced reads (~100 base pairs).

We next determined methylation values within MCBs. *SI Appendix*, Fig. S3 shows an example of MCBs found on chromosome 1 in both normal tissues (breast, colon, liver, and lung) and corresponding tumor tissues: breast invasive carcinoma (BRCA), colon adenocarcinoma (COAD), liver hepatocellular carcinoma (LIHC), and lung adenocarcinoma (LUAD). We found similar β values across multiple CpG sites within a MCB, and thus calculated a compound methylation value for one entire MCB. We used them instead of single CpG sites in downstream bioinformatics pipelines, which significantly enhanced the allele-calling accuracy.

Methylation Profiles Can Identify Cancer Metastases to Liver. Because identifying the tissue of origin is crucial in selecting the optimum treatment strategy for patients presenting with metastases, we investigated the utility of DNA methylation analysis for diagnosis of cancer metastases to liver and lung in our Chinese cohort. In addition to the aforementioned primary tumors, we analyzed 30 colorectal cancer metastases to liver and 34 colorectal cancer metastases to lung. We found that unsupervised hierarchical clustering could differentiate these metastases from colon cancer or normal tissue (Fig. 2). The methylation signature could correctly diagnose 29 of 30 colorectal cancer metastases to liver and 32 of 34 colorectal cancer metastases to lung (Table 3); one of the three misdiagnoses were identified as normal liver and two of the three misdiagnoses were identified as normal colorectal tissue, suggesting that the error was due to tissue contamination. These findings support the potential for using the DNA methylation signature to improve the diagnosis of metastatic disease in addition to primary cancers.

Table 3. Confusion table of validation cohort 2

Validation cohort 2	Breast cancer	Colorectal cancer	Colorectal cancer metastases to liver	Colorectal cancer metastases to lung	Liver cancer	Lung cancer	Normal breast	Normal colon	Normal liver	Normal lung	Total
Breast cancer	65						4			1	
Colorectal cancer	1	154	29	32		1					
Liver cancer		1			44	1			1	3	
Lung cancer						43				1	
Normal breast	7						41				
Normal colon		6		2				161			
Normal liver		2	1		2				72		
Normal lung		1				2				41	
Total	73	164	30	34	46	47	45	161	73	45	718
Correct	65	154	29	32	44	43	41	161	72	41	682
False-positive							4		1	1	6
False-negative	7	9	1	2	2	2					23
Wrong tissue	1	1				2				4	8
Correct (%)	89.4	93.9	96.7	94.1	95.6	91.5	91.1	100	98.6	91.1	95.0

Orange indicates cancer sample, purple indicates normal sample, and gray indicates correctly diagnosed sample number of each validation cohort.

Methylation Profiles Predict Prognosis and Survival. We next assessed the prognostic utility of a methylation signature for each type of cancer. Clinical and demographic characteristics, including age, sex, race, and American Joint Committee on Cancer stage, were included in the analysis as well, because the prognostic power can be greatly improved by combining this information with informative molecular data (17). For each cancer category, we used two different statistical learning algorithms, lasso and boosting, to reduce the dimensionality of markers and construct a predictive model. We evaluated the prognostic utility on TCGA training and validation cohorts at a 2:1 ratio. Our method performed well in differentiating low-risk and high-risk groups in Kaplan–Meier analyses and in associated log-rank tests with significant *P* values, demonstrating significant prognostic utility of the methylation signatures in BRCA and LUAD (Fig. 3 and *SI Appendix*, Tables S5 and S6).

A Cancer Methylation Profile Correlated with Its Gene Expression Pattern and Function. Given that DNA methylation is an essential epigenetic regulator of gene expression, we sought to investigate how differential methylation of sites in genes in cancer versus normal tissue correlated with gene expression. Specifically, we were interested in those methylation sites that predicted the presence of malignancy in our aforementioned signatures. As described in *Methods*, we used both methylation and RNA sequencing data to select top CpG markers in LIHC for which methylation was significantly correlated with gene expression. As expected, we typically observed an inverse correlation between promoter methylation and gene expression and identified several genes known to be important in carcinogenesis, as well as genes with relatively unknown functional relevance in LIHC. Among the genes hypermethylated with decreased expression, we selected one gene for LIHC [fuzzy planar cell polarity protein (*Fuz*); Fig. 4]. Overexpression of FUZ suppressed LIHC cell line growth (Fig. 4).

We further attempted to validate a list of top genes whose methylation patterns were closely correlated with gene expression in a mouse model of LIHC. We found a good correlation between the gene expression profiles in human and mouse LIHC (*SI Appendix*, Fig. S4 and Table S7). These results support a

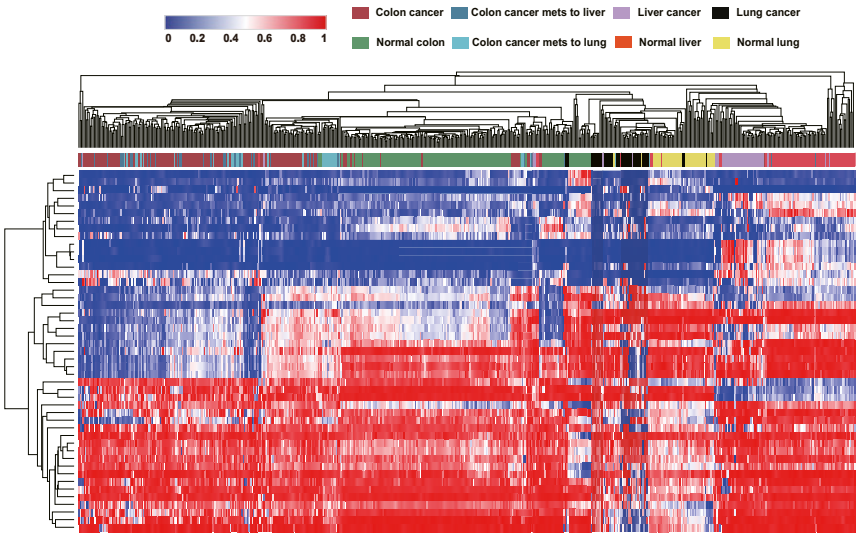


Fig. 2. DNA methylation signatures can identify the cancer of origin in metastasis of colon cancer. Shown are unsupervised hierarchical clustering and heat map associated with the methylation profile of 394 tumor samples and 324 normal samples of primary and metastatic colorectal cancer, liver cancer, and lung cancer in a Chinese cohort with a panel of 46 CpG markers. Each column represents an individual patient, and each row represents an individual CpG marker. The color scale shows relative methylation.

functional role of these methylation markers in promoting carcinogenesis and provide biological validation for their use in methylation studies to characterize cancers.

Discussion

The present study demonstrates the potential for using methylation signatures to identify cancer tissue of origin and predict prognosis. Although we focused on four common cancers here, we expect that DNA methylation analysis can be readily expanded to aid diagnosis of a much larger number of cancers. Our results may be particularly helpful for identifying cancers in cases with an inadequate tissue yield or quality for histological diagnosis, which requires preservation of the tissue architecture. In contrast, DNA methylation analysis requires only a small amount of tissue to obtain adequate DNA, thus potentially allowing the use of lower-quality biopsies. These studies also may have significant utility in assigning diagnoses from analysis of metastatic lesions, especially when the tumor is of an unknown primary cancer type.

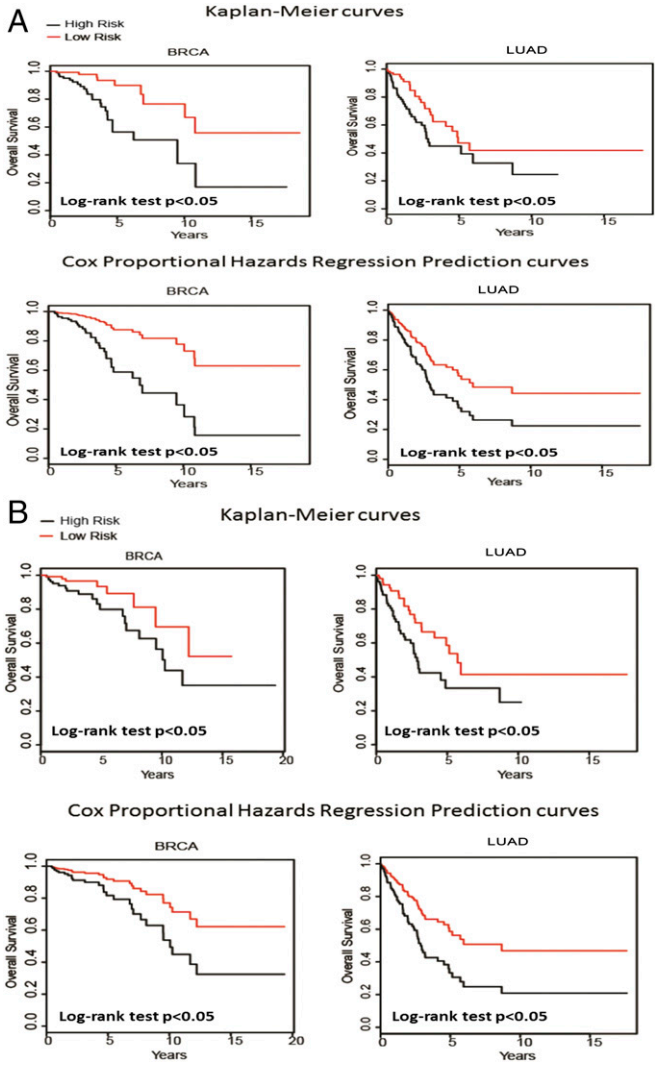


Fig. 3. Methylation markers can predict overall survival of patients in different types of cancers. (*A*) Overall survival curves of BRCA and LUAD patients with a low or high risk of death, according to a combined prognosis score from a lasso analysis. Shown are Kaplan–Meier curves (*Upper*) and Cox proportional hazards regression prediction curves (*Lower*) of overall survival in BRCA (*Left*) and LUAD (*Right*) patients with low or high risk of death. (*B*) Overall survival curves of BRCA and LUAD patients with a low or high risk of death, according to a combined prognosis score from a boosting analysis. Shown are Kaplan–Meier curves (*Upper*) and Cox proportional hazards regression prediction curves (*Lower*) of overall survival of BRCA (*Left*) and LUAD (*Right*) patients with low or high risk of death, according to a combined prognosis score from a boosting analysis.

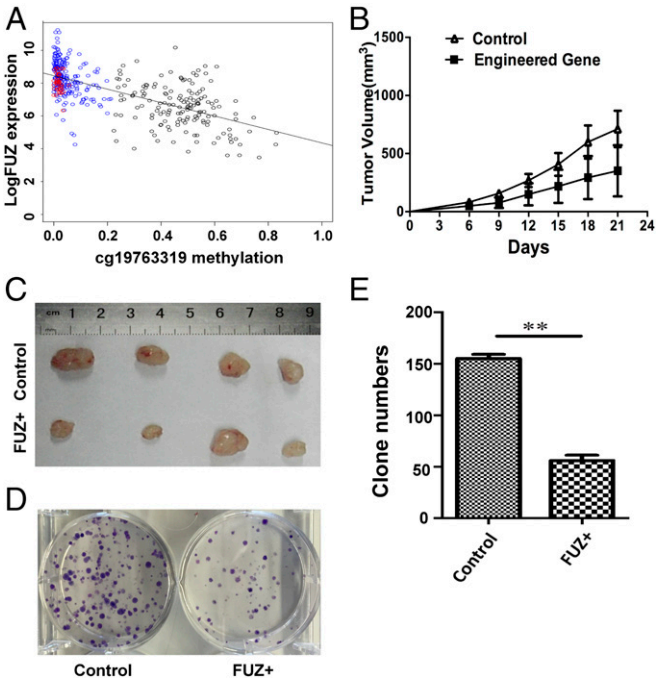


Fig. 4. Linking differentially methylated markers to gene expression in LIHC. (*A*) Relationship between methylation of CpG marker cg19763319 and expression of FUZ in liver cancer. Red dots indicate normal tissue samples; black dots, cancer samples. (*B*) Effect of FUZ expression on growth of liver cancer cell line HEP1. (*C*) Effect of FUZ expression on growth of HEP1 cells in a mouse xenograft model. (*D*) Effect of FUZ expression on colony formation of HEP1 cells. (*E*) Quantified colony formation by FUZ-transduced HEP1 cells compared with control. $^{**}P < 0.001$.

Through sequencing of bisulfate-converted DNA (bis-DNA), we identified many previously unknown CpG markers differentially methylated in cancer tissues versus normal tissues. Lehmann-Werman et al. (18) described multiple adjacent CpG sites that share the same tissue-specific methylation pattern. We further explored this concept of the mBlock and found that many nearby methylation markers are highly correlated. This information allowed us to identify additional markers and improve the accuracy of sequencing for determining significant methylation differences. This method has substantial potential for improving the accuracy and utility of DNA methylation analysis for the four study cancer types and other cancers, as well as for expanding the number of diagnostic markers available for interrogation. However, the length of an MCB, which is related to how long a DNA methyl-transferase binds to and exerts its enzymatic effect on modifying adjacent and surrounding CpG sites on a DNA strand, is not clear, because its underlying biochemical basis is not fully defined.

DNA methylation analysis has the potential to improve outcomes, given that accurate diagnosis is often crucial to treatment selection. Our application of methylation signatures to prognosis revealed subsets of patients with positive and negative prognoses. This finding raises the possibility that methylation may help identify relatively indolent or aggressive tumors and may aid decision making regarding the selection of more aggressive or less aggressive treatment and monitoring. Further studies are warranted to fully explore the clinical applications of methylation sequencing to guide personalized care for patients with cancer.

Methods

Training and first validation cohorts were performed on patient data obtained from TCGA. Patient characteristics are summarized in *SI Appendix*, Tables S1 and S2. Complete clinical, molecular, and histopathological datasets are available at the TCGA website (https://tcga-data.nci.nih.gov/docs/publications/tcga/). Individual institutions that contributed samples coordinated the consent process and obtained informed written consent from each patient in accordance with their respective institutional review boards. A second independent (Chinese) cohort consisted of patients of the Sun Yat-sen University Cancer Center, the West China Hospital in Chengdu, China, and Xijing Hospital. Those who presented with lung adenocarcinoma, liver hepatocellular carcinoma, breast adenocarcinoma, and colorectal adenocarcinoma, including metastatic disease, were selected and enrolled in this study. Patient characteristics are also summarized in *SI Appendix*, Tables S1 and S3. This project was approved by the IRB of the Sun Yat-sen University Cancer Center, West China Hospital, and Xijing Hospital. Informed consent was obtained from all patients. Tumor and normal tissues were obtained as clinically indicated for patient care and were retained for this study with patients' informed consent.

Information on data sources, statistical analyses, probe design, bis-DNA capture, sequencing and data analysis, DNA extraction, cell culture, colony formation assays, and tumor xenografts is provided in *SI Appendix*.

ACKNOWLEDGMENTS. This study was supported in part by the Carol and Dick Hertzberg Fund, the Richard Annesser Fund, and the Michael Martin Fund.

1. DeVita VT, et al. (2011) *DeVita, Hellman, and Rosenberg's Cancer: Principles and Practice of Oncology* (Lippincott Williams & Wilkins, Philadelphia), Ed 9.
2. Wang T, et al. (2015) Identification and characterization of essential genes in the human genome. *Science* 350:1096–1101.
3. Han L, et al. (2014) The Pan-Cancer analysis of pseudogene expression reveals biologically and clinically relevant tumour subtypes. *Nat Commun* 5:3963.
4. Akbani R, et al. (2014) A pan-cancer proteomic perspective on The Cancer Genome Atlas. *Nat Commun* 5:3887.
5. Jaenisch R, Bird A (2003) Epigenetic regulation of gene expression: How the genome integrates intrinsic and environmental signals. *Nat Genet* 33:245–254.
6. Vaissière T, Sawan C, Herceg Z (2008) Epigenetic interplay between histone modifications and DNA methylation in gene silencing. *Mutat Res* 659:40–48.
7. Egger G, Liang G, Aparicio A, Jones PA (2004) Epigenetics in human disease and prospects for epigenetic therapy. *Nature* 429:457–463.
8. Herman JG, Baylin SB (2003) Gene silencing in cancer in association with promoter hypermethylation. *N Engl J Med* 349:2042–2054.
9. Feinberg AP, Tycko B (2004) The history of cancer epigenetics. *Nat Rev Cancer* 4: 143–153.
10. Kandoth C, et al. (2013) Mutational landscape and significance across 12 major cancer types. *Nature* 502:333–339.
11. Paez JG, et al. (2004) EGFR mutations in lung cancer: Correlation with clinical response to gefitinib therapy. *Science* 304:1497–1500.
12. Ogino S, et al.; Alliance for Clinical Trials in Oncology (2013) Predictive and prognostic analysis of PIK3CA Mutation in Stage III Colon Cancer Intergroup Trial. *J Natl Cancer Inst* 105:1789–1798.
13. Koboldt DC, et al. (2012) VarScan 2: Somatic mutation and copy number alteration discovery in cancer by exome sequencing. *Genome Res* 22:568–576.
14. Dees ND, et al. (2012) MuSiC: Identifying mutational significance in cancer genomes. *Genome Res* 22:1589–1598.
15. Smyth GK (2004) Linear models and empirical Bayes methods for assessing differential expression in microarray experiments. *Stat Appl Genet Mol Biol* 3:3.
16. Friedman J, Hastie T, Tibshirani R (2010) Regularization paths for generalized linear models via coordinate descent. *J Stat Softw* 33:1–22.
17. Yuan Y, et al. (2014) Assessing the clinical utility of cancer genomic and proteomic data across tumor types. *Nat Biotechnol* 32:644–652.
18. Lehmann-Werman R, et al. (2016) Identification of tissue-specific cell death using methylation patterns of circulating DNA. *Proc Natl Acad Sci USA* 113:E1826–E1834.

Supplementary Figure and Table

Supplementary Fig 1. Unsupervised hierarchical clustering of DNA methylation of COAD versus normal colon, BRCA versus normal breast, LIHC versus normal liver, and lung cancer versus normal lung using binary methylation markers in the TCGA validation cohort.

Supplementary Fig 2. DNA methylation signatures can identify cancer of origin in metastasis of colon cancer. Supervised hierarchical clustering and heat map associated with the methylation profile of 394 tumor and 324 normal samples of primary and metastatic colorectal cancer, liver cancer, and lung cancer in a Chinese cohort with a panel of 46 CpG markers. Each column represents and individual patient and each represents an individual CpG marker. Color scale represents relative methylation.

Supplementary Fig 3. List of Blocks of Correlated Methylation (BCM). Data was compiled from both healthy tissue samples (lung, liver, colon, breast) and corresponding cancers (LUAD, LIHC, COAD, BRCA). Each row represents a CG dinucleodide analyzed in this study. Subset of those correspond to CG markers included on Illumina's Infinium HumanMethylation450 BeadChip (leftmost column), whereas the vast majority represent previously unknown potential novel markers that could be used in cancer diagnosis. Second column lists genomic distances between markers and third column shows genomic location of each analyzed CG. Graphs (eight columns, each corresponding to one normal or cancer tissue) illustrate Pearson correlation coefficients r^2 between β values of two closely positioned CGs calculated for samples from each tissue type separately. Correlation between any two markers is represented by a red square at the intersection of (virtual) perpendicular lines originating from these two markers. White color indicates no significant correlation, red color intensity marks r^2 values between 0.5 and 1. Black boxes indicate the ends of analyzed regions. A total of ~9800 CG positions have been analyzed.

Supplementary Fig 4. An example of a region within PRDM16 gene locus encompassing three Blocks of Correlated Methylation (BCM) in healthy tissue samples (lung, liver, colon, breast) and corresponding cancers (LUAD, LIHC, COAD, BRCA).

a: (left panel) a not-to-scale representation of a set of analyzed cg markers belonging to three BCMs in this region. Boundaries between identified blocks are defined as the extent of a probe and indicated by a black rectangle, whereas red squares indicate correlated methylation ($r>0.5$) between two nearby markers. Correlation between any two markers is represented by a square at the intersection of (virtual) perpendicular lines originating from these two markers. White color indicates no significant correlation. 3 newly identified methylation markers in the left MCB anchored by marker cg23086843, 4 newly identified methylation markers in the middle MCB anchored by cg01940181 and 9 newly identified methylation markers in the right MCB anchored by cg06911744/ cg26000536 were highly consistent and correlated among all four normal and four cancer tissue DNAs. The location of all markers is indicated below the correlation graph. Using markers within the same MCB significantly improved measurement accuracy of methylation levels.
b: (three panels on the right) genomic neighborhood of the three BCM displayed within UCSC genome browser (genome.ucsc.edu) .Upper portions of the subpanels show Pearson correlation data tracks for analyzed tissues by summing r values for a marker within a BCM. Cg marker names below the Pearson correlation graph are methylation markers used by TCGA. Gene name and common SNPs are also shown.

Supplementary Fig 5. Heatmap displaying positive fold changes (FC) in expression of top ten genes of interest in human LIHC versus normal liver tissue and its correlation in mouse LIHC (right).

Supplementary Table 1: Summary of study cohorts

Supplementary Table 2: Clinicopathological Characteristics of the TCGA cohort

Supplementary Table 3: Clinicopathological Characteristics of the Chinese cohort

Supplementary Table 4. List of markers presented in at least 7 out of 10 random split analyses in a multinomial analysis of four cancers and corresponding normal tissues

Supplementary Table 5. List of markers selected in 3 out of 10 training / test split analyses in survival analysis of breast cancer

Supplementary Table 6. List of markers selected in 3 out of 10 training / test split analyses in survival analysis of lung cancer (LUAD/LUSC)

Supplementary Table 7: Positive fold changes (FC) in expression of top ten genes of interest in human LIHC versus normal liver tissue and its correlation in mouse LIHC

Supplementary Table 8: Breast cancer: validation and prediction performance in a survival analysis

Supplementary Table 9: Lung cancer: validation and prediction performance in a survival analysis and its correlation in mouse LIHC

Methods

Data sources

DNA methylation data were obtained from both the TCGA analysis of 485,000 sites generated using the Infinium 450K Methylation Array and the following GSE datasets: GSE46306, GSE50192, GSE58298 and GSE41826. Methylation profiles for four unique cancer types and their corresponding normal tissues were analyzed. IDAT format files of the methylation data were generated containing the ratio values of each scanned bead. Using the minfi package from Bioconductor, these data files were converted into a score, referred to as a Beta value. Beta values for any markers that did not exist across all 20 datasets were excluded. Methylation data of the Chinese cohort was obtained by padlock based bisulfite sequencing and analyzed as described below.

Statistical Analysis

Diagnostic: building multiclass classifier

For each of the 8 types: BRCA, COAD, LIHC, LUNG (LUAD and LUSC combined) cancer and corresponding normal tissue samples, we randomly split the full dataset into training and validation sets with 2:1 ratio. We first performed the pre-screening procedure to remove excessive noise on the training data using the "moderated t-statistics" (1). For each set of comparison, one type of

sample was compared against all other 7 types of samples. A list of markers with significantly difference in mean among all 8 sets of comparisons were retained for future analysis. The Benjamini-Hochberg procedure (2) was used to control the FDR at significance level 0.05. For multinomial classification, we used LASSO under multinomial distribution. The tuning parameter was determined by the expected generalization error estimated from 10-fold cross-validation. We repeated the random split scheme for 10 times to stabilize the variable selection procedure. We constructed a composite panel by keeping markers with a high selection probability and disregard those with low selection probability from the 10 sets of markers selected from the aforementioned procedure. A multi-class prediction system (3) was constructed to predict the group membership of samples in the validation data using the panel of markers selected. A confusion matrix and ROC curves were also provided to evaluate sensitivity and specificity, in addition to prediction accuracy.

All the hypothesis testing are two-sided with p-value < 0.05 considered to be statistically significant. All the analyses were conducted in R version 3.3.2 with the following packages used: 'glmnet', 'lpc', 'CoxBoost', 'limma', 'ROCR'.

Prognostic: predicting survival outcomes

For each type of cancer: BRCA, COAD, LIHC and LUNG (LUAD and LUSC combined), we randomly split the full dataset into training and test sets with 2:1 ratio. We first performed the univariate pre-screening procedure on the training data to remove excessive noise and accelerate the computational procedure, which was generally recommended prior to applying any variable selection method (4) For each methylation marker, we fit a univariate Cox proportional hazards model by using each marker as the covariate. A marker with p-value < 0.05 from the Wald statistic was retained in the dataset.

We then applied four variable selection methods suitable for high-dimensionality on the prescreened training dataset: Least Absolute Shrinkage and Selection Operator (LASSO)(5), Elastic Net (6), Lassoed Principal Components (LPC) (7) and Boosting (8). For LASSO and Elastic Net, the tuning parameters (for LASSO and (for Elastic Net) were determined according to the expected generalization error estimated from 10-fold cross-validation and information-based criteria AIC/BIC. For LPC, the markers with p-value < 0.05 after False Discovery Rate (FDR)

correction were considered to be statistically significant. For boosting, the optimal step was determined by the expected generalization error estimated from 10-fold cross-validation. For all methods, the number of markers was also governed by the effective sample size in the training dataset, which equals to the number of events. We then fit a Cox proportional hazards model on the training data using markers selected at the optimal step as the covariates. The predictability of the model was evaluated by two criteria: on the training data and concordance probability (also known as C-index) on the test data. - the proportion of explained randomness (9) is a function of Kullback- Leibler information gain bounded between 0 and 1, with a larger value indicating larger proportion of randomness explained. C-index (10) calculates the proportions of concordant pairs among all pairs of observations with 1 indicating perfect prediction accuracy. To validate, we obtained a risk score for each patient in the test data by multiplying the unbiased coefficient estimates and the design matrix. By dividing the risk score according to its median, we formed a high and low risk groups with roughly equal number of observations. A figure of Kaplan-Meier estimator and log-rank test were included to determine if the median survival time was significantly different. A model-based prediction was also provided. The high concordance between the non-parametric and semi-parametric prediction curves indicated the possibility of accurately predicting a new patient's survival status for any future time point using the panel of markers selected.

As the results can depend strongly on the arbitrary choice of a random sample split for sparse high-dimensional data, we inherited the sprit of "multi-split" method (11) a remedy to improve variable selection consistency while controlling finite sample error. We repeated the "randomly split – screen – selection" procedure 10 times and ended up with 10 different sets of markers. The markers were then aggregated with the most common ones, determined from the frequency table to be used in the subsequent experiments. We validated the predictability of the panel of markers by randomly split another 10 sets of training and test groups with 2:1 ratio, and following the aforementioned validation procedure.

For BRCA patients, by using two different statistical learning algorithms, we identified a panel of 19 and 11 methylation markers present in at least 3 out of 10 "randomly split-screen-selection" procedure, respectively (Supplemental table 8). Among these markers identified, there were 10

overlapping markers. The average, the proportion of explained randomness calculated from the training data is 0.86 (min: 0.59; max: 0.98) for LASSO and 0.90 (min: 0.75; max: 0.99) for boosting, respectively. The average C-index calculated from the test data is 0.63 (min: 0.56; max: 0.71) for LASSO and 0.61(min:0.54; max:0.68) for boosting. The promising values from both criteria indicated good predictability from the methylation signatures. We also evaluated the prognostic utility on TCGA data on newly generated TCGA training and test datasets with 2:1 ratio. In a validation study, 5 out of 10 times the panel of aggregated methylation markers from LASSO can separate groups of high and low risk patients completely; 3 out of 10 times the panel of aggregated methylation markers from boosting can separate different risk groups (Fig. 3).

For LUNG (combined LUSC and LUAD), we detected 75 methylation markers by LASSO and 52 by boosting (45 markers overlapped) in at least 3 out of 10 "randomly split – screen – selection" procedure (Supplemental table 9). The average, the proportion of explained randomness calculated from the training data is 0.91 (min: 0.80; max: 0.96) for LASSO and 0.93 (min: 0.46; max: 0.95) for boosting, respectively. The average C-index calculated from the test data is 0.57 (min: 0.53; max:0.63) for LASSO and 0.55(min:0.50; max:0.66) for boosting. In a validation study, 2 out of 10 times the panel of aggregated methylation markers from LASSO can separate groups of high and low risk patients completely; 5 out of 10 times the panel of aggregated methylation markers from boosting can separate different risk groups (Fig 3).

Tumor DNA extraction

Genomic DNA extraction from pieces of freshly frozen healthy or cancer tissues was performed with eLiteDNA Mini Kit (EliteHealth, Guangzhou) according to manufacturer's recommendations. DNA was extracted from roughly 0.5 mg of tissue. DNA was stored at -20^{O}C and analyzed within one week of preparation.

DNA extraction from FFPE samples

Genomic DNA from frozen FFPE samples was extracted using eLiteDNA DNA FFPE Tissue Kit (DNA were stored at -20^{O}C for further analysis (EliteHealth, Guangzhou).

Bisulfite conversion of genomic DNA

1µg of genomic DNA was converted to bis-DNA using EZ DNA Methylation-Lightning™ Kit (Zymo Research) according to the manufacturer's protocol. Resulting bis-DNA had a size distribution of ~200-3000 bp, with a peak around ~500-1000 bp. The efficiency of bisulfite conversion was >99.8% as verified by deep-sequencing of bis-DNA and analyzing the ratio of C to T conversion of CH (non-CG) dinucleotides.

Determination of DNA methylation levels of the second validation cohort by deep sequencing of bis-DNA captured with molecular-inversion (padlock) probes

Padlock probes were designed to capture regions containing the CpG markers whose methylation levels significantly differed in any of the comparison between any cancer tissue and any normal tissue. Padlock-capture of bis-DNA was based on published techniques and protocols with modifications (12-14).

Probe design and synthesis

Padlock probes were designed using the ppDesigner software (13). The average length of the captured region was 100 bp, with the CpG marker located in the central portion of the captured region. Linker sequence between arms contained binding sequences for amplification primers separated by a variable stretch of Cs to produced probes of equal length. We incorporated a 6-bp unique molecular identifier (UMI) sequence in probe design to allow for the identification of unique individual molecular capture events and accurate scoring of DNA methylation levels.

Probes were synthesized as separate oligonucleotides using standard commercial synthesis methods (IDT, San Diego).

Bis-DNA capture

200 ng of bisulfite-converted DNA was mixed with padlock probes in 20 µl reactions containing 1X Ampligase buffer (Epicentre). To anneal probes to DNA, 10-minute denaturation at 95°C was followed by a slow cooling to 55°C. Hybridization was left to complete for 15 hrs at 55°C.. To fill gaps between annealed arms, 5µl of the following mixture was added to each reaction: 2µl of HemoKlenTaq polymerase (NEB), 0.5U of Ampligase (Epicentre) and 250 pmol of each dNTP in 1X Ampligase buffer. 5 µl of exonuclease mix (20U of Exo I and 100U of ExoIII, both from

Epicentre) was added and single-stranded DNA degradation was carried out at 37°C for 2 hours, followed by enzyme inactivation for 2 minutes at 94°C.

Circular products of site-specific capture were amplified by PCR with concomitant barcoding of separate samples. Amplification was carried out using primers specific to linker DNA within padlock probes, one of which contained specific 6bp barcodes. Both primers contained Illumina next-generation sequencing adaptor sequences. PCR was done as follows: 1X Phusion Flash Master Mix, 3 µl of captured DNA and 200nM primers, using the following cycle: 10s @ 98°C, 8X of (1s @ 98°C, 5s @ 58°C, 10s @ 72°C), 25X of (1s @ 98°C, 15s @ 72°C), 60s @ 72°C. PCR reactions were mixed and the resulting library was size selected to include effective captures (~230bp) and exclude "empty" captures (~150bp) using Agencourt AMPure XP beads (Beckman Coulter). Libraries we sequenced using MiSeq and HiSeq2500 systems (Illumina) using a paired-end 150bp cycles.

Sequencing data analysis

Mapping of sequencing reads was done using the software tool bisReadMapper with some modifications(13). First, UMI were extracted from each sequencing read and appended to read headers within FASTQ files using a custom script. Reads were on-the-fly converted as if all C were non-methylated and mapped to in-silico converted DNA strands of the human genome, also as if all C were non-methylated, using Bowtie2(15). Methylation frequencies were calculated for all CpG dinucleotides contained within the regions captured by padlock probes by dividing the numbers of unique reads carrying a C at the interrogated position by the total number of reads covering the interrogated position.

Identification of Methylation Correlated Block (MCB)

In order to maximize the ability to measure small differences in DNA methylation we took advantage of the notion that closely positioned CpG tend to have similar methylation levels, what is believed to be a result of the processivity and lack of sequence-specificity of DNA methyltransferases and demethylases, as well as the concept of haplotype blocks in genetic linkage analysis (16). To investigate whether this indeed is evident in our data, we calculated Pearson correlation coefficients r^2 between β values of any two CpGs positioned within one kilobase of one another. We used a cutoff of $r^2>0.5$ to identify Methylation Correlated Block (MCB) within regions interrogated by our padlock probes. A value of Pearson's $r<0.5$ was used to identify

transition spots (boundaries) between any two adjacent markers indicating uncorrelated methylation. Markers not separated by a boundary were combined into Methylation Correlated Block (MCB). This procedure identified a total of 3600 BCMs in each diagnostic category within our padlock data, combining between 2 and 22 CpG positions in each block. Methylation frequencies for entire MCBs were calculated by summing up the numbers of Cs at all interrogated CpG positions within a MCB and dividing by the total number of C+Ts at those positions.

Pearson correlation coefficients between methylation frequencies of each pair of CpG markers separated by no more than 200bp were calculated separately from 30 cancer and 30 corresponding normal tissue samples from each of the two diagnostic categories, ie normal liver and HCC. A value of Pearson's $r<0.5$ was used to identify transition spots (boundaries) between any two adjacent markers indicating uncorrelated methylation. Markers not separated by a boundary were combined into Methylation Correlated Block (MCB). This procedure identified a total of ~1550 MCB in each diagnostic category within our padlock data, combining between 2 and 22 CpG positions in each block. Methylation frequencies for entire BCMs were calculated by summing up the numbers of Cs at all interrogated CpG positions within a BCM and dividing by the total number of C+Ts at those positions.

Linking differentially methylated markers to gene expression

TCGA DNA methylation and RNAseq expression data for LIHC samples was obtained from the TCGA website as above. Analysis to link differentially methylated markers to gene expression was performed as in Yao et al (17). Briefly, the degree of DNA methylation at each CpG was denoted as a beta value and was calculated as (M/(M+U)), where M and U are normalized values representing the methylated and unmethylated allele intensities respectively. Beta values range from 0 to 1 and reflect the fraction of methylated alleles at each CpG in each sample.

The methylation beta value was calculated for all 485,000 markers for each of the LIHC tumor and matched normal liver tissues in the TCGA data. CpG markers with a mean value less than .05 or greater than .95 were selected for further evaluation. We also selected markers with a difference between the mean methylation value for the tumor tissue and the mean methylation value of the corresponding normal tissue of greater than 0.5. At the intersection of these two groups, markers for which the mean methylation was <.05 for normal liver tissue samples and the difference between normal and tumor was greater than 0.5 were further selected and the genes associated with these markers were identified. For each marker, the tumor samples were then separated into

those with methylation values greater than the mean value of the tumor samples and those with methylation values less than the mean value of the tumor samples.

Next, we examined the RNAseq data in the TCGA data and calculated the relative expression of each gene. Because of the wide variation of the expression values, we adjusted the values as follows: log2 (expressionValue + 1)

We then identified genes in which the difference in the methylation values correlated with variation in the associated gene expression levels. Genes for which there was a correlation were selected for further functional evaluation and validation.

Validation of genes differentially expressed in human LIHC in mouse LIHC.

Data on human genes with a good correlation between methylation and differential expression in LIHC versus normal liver tissue were compared to search for the mouse counterpart in a dataset previously reported(18). Fold change of expression comparing LIHC versus normal liver tissue were investigated and presented (supplemental Fig 3 and supplemental Table 7)

DNA/RNA isolation and Quantitative PCR

Tumor and corresponding far site samples of the same tissue were obtained from patients who underwent surgical tumor resection; samples were frozen and preserved at -80^{O}C until use. Isolation of DNA and RNA from samples was performed using AllPrep DNA/RNA Mini kit (Qiagen, Valencia, CA) according to the manufacturer's recommendations. During RNA isolation, the sample was subjected to on-column DNase digestion. RNA was quantified using a Nanodrop 2000 (Thermo Scientific). 200ng RNA of each sample was used for cDNA synthesis using iScript cDNA synthesis kit (Bio-rad, Inc) according to the manufacturer's instructions. qPCR was performed by a standard 40-cycle amplification protocol using gene-specific primers (Supplemental Table 4) and a Power SYBR Green PCR Master Mix on a 7500 Real Time PCR system (Applied Biosystems). Experiments were carried out in triplicate and normalized to endogenous *ACTB* levels. Relative fold change in expression was calculated using the ΔΔCT method (cycle threshold values <30). Data are shown as Mean ± SD based on three replicates.

Cell culture and gene transfections

Human liver cancer cell line HEP1 and the human embryonic kidney cell line HEK293a were obtained from American type culture collection (Manassas, VA, USA) and cultured according to their instructions. The expression construct for *FUZ* were purchased from Origene in a form of TrueORF ® cDNA clones in pCMV6-Entry vector. cDNAs were shuttled into pLenti-C-mGFP (Origene) to create a lentivector encoding a fusion protein between the desired gene and mGFP. Lentiviral particles were made by co-transfection of HEK-293T cells with a *FUZ*-mGFP lentivector together with a third-generation packaging vector using calcium phosphate precipitation. Viral supernatants were collected 36 hours post-transfection. Human liver cancer cell line HEP1 were plated in a 6-well plate the day before transfection of *FUZ*-mGFP lentivector. Stable cell lines were generated by infecting cells with viral particles at the MOI of ~5 for 24hrs and collected and sorted to 100% GFP – positivity using FACS. The GFP positive cells were then used for a colony formation assay in cell culture and tumor xenograft in nude mice.

Colony formation assays

Cells were plated in 6-well plates at a density of 500 cells per well and cultured at 37ºC with 5% CO2 humidified air for 14 days. The colonies were fixed with 10% formaldehyde for 5 min and then stained with 0.1% crystal violet for 30 seconds. Colony consisting of 50 or more cells were counted. The experiment was performed in triplicate and repeated 3 times. Plate efficiency = (colony numbers /inoculated cell numbers) × 100%.

Tumor xenograft

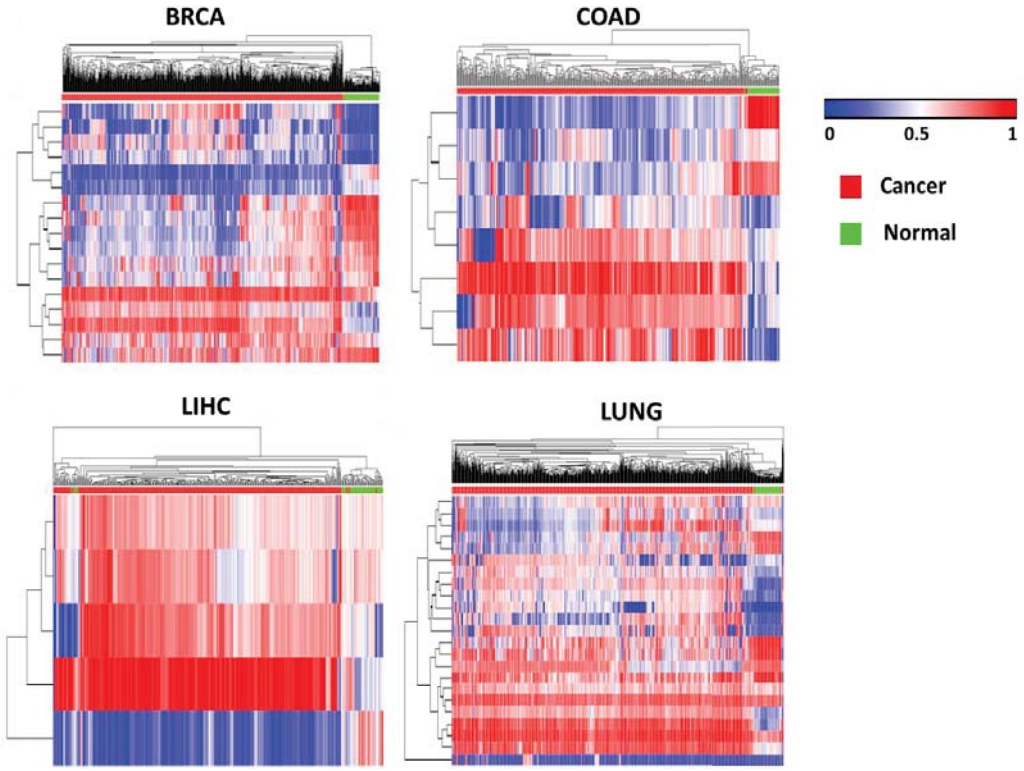
All animal studies were performed in accordance with institutional and international animal regulations. Animal protocols were approved by the Institutional Animal Care and Use Committee of Sun Yat- Sen University. Female athymic BALB/c nude mice (4–5 weeks of age, 18–20 g) were purchased from a vendor (Guangdong Province Laboratory Animal Center, Guangzhou, China). Mice were injected subcutaneously with 100 μl of tumor cells suspended in serum free medium. Tumor growth was monitored every 3 days by visual examination. Tumor sizes were measured using a caliper, and tumor volume was calculated according to the following equation: tumor volume (mm^3) = (length (mm) × width $(mm)^2$) × 0.5. All animals were sacrificed 3-4 weeks post-injection and the xenografts were harvested. Representative data were obtained from five mice per

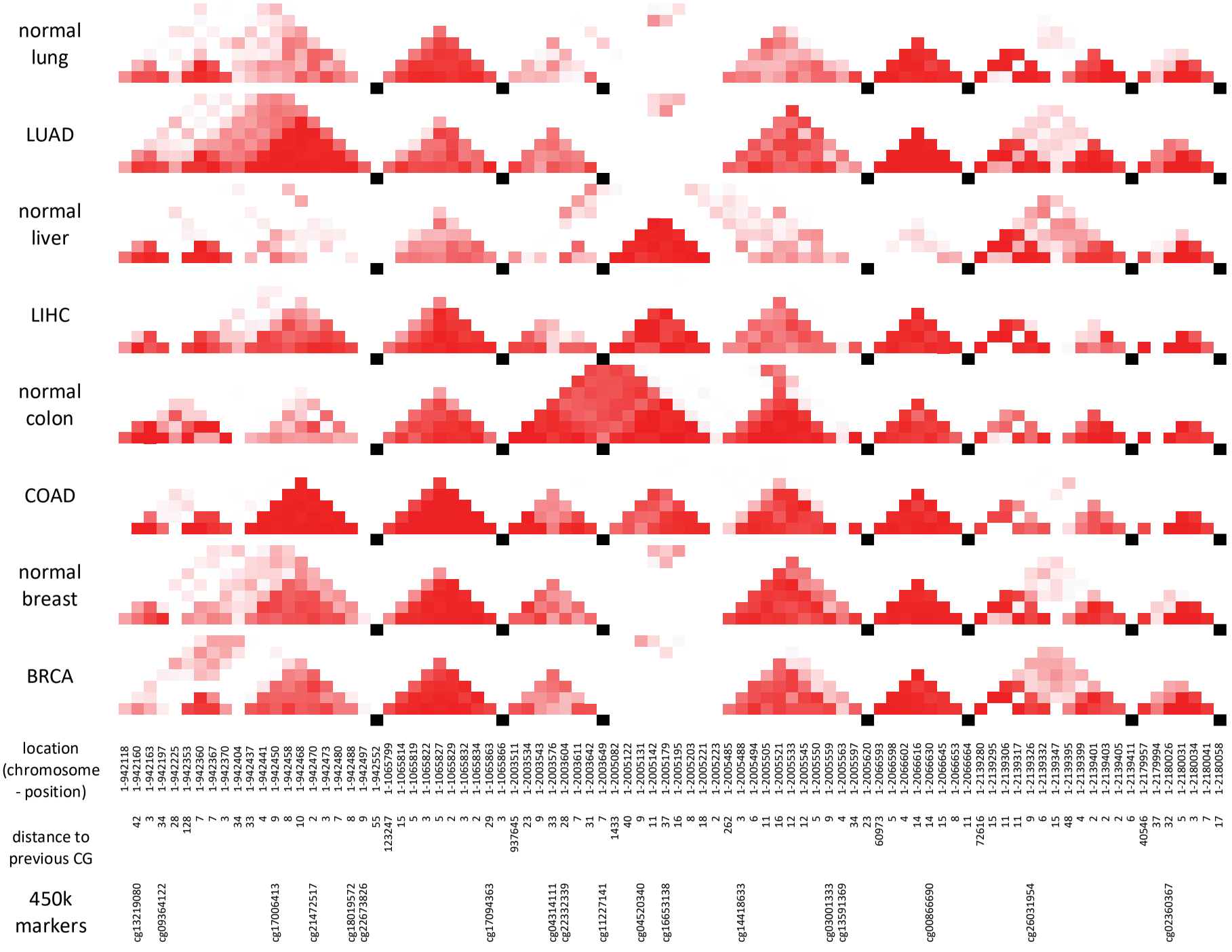
experimental group. Statistical analyses were performed with one-way repeated- measures ANOVA.

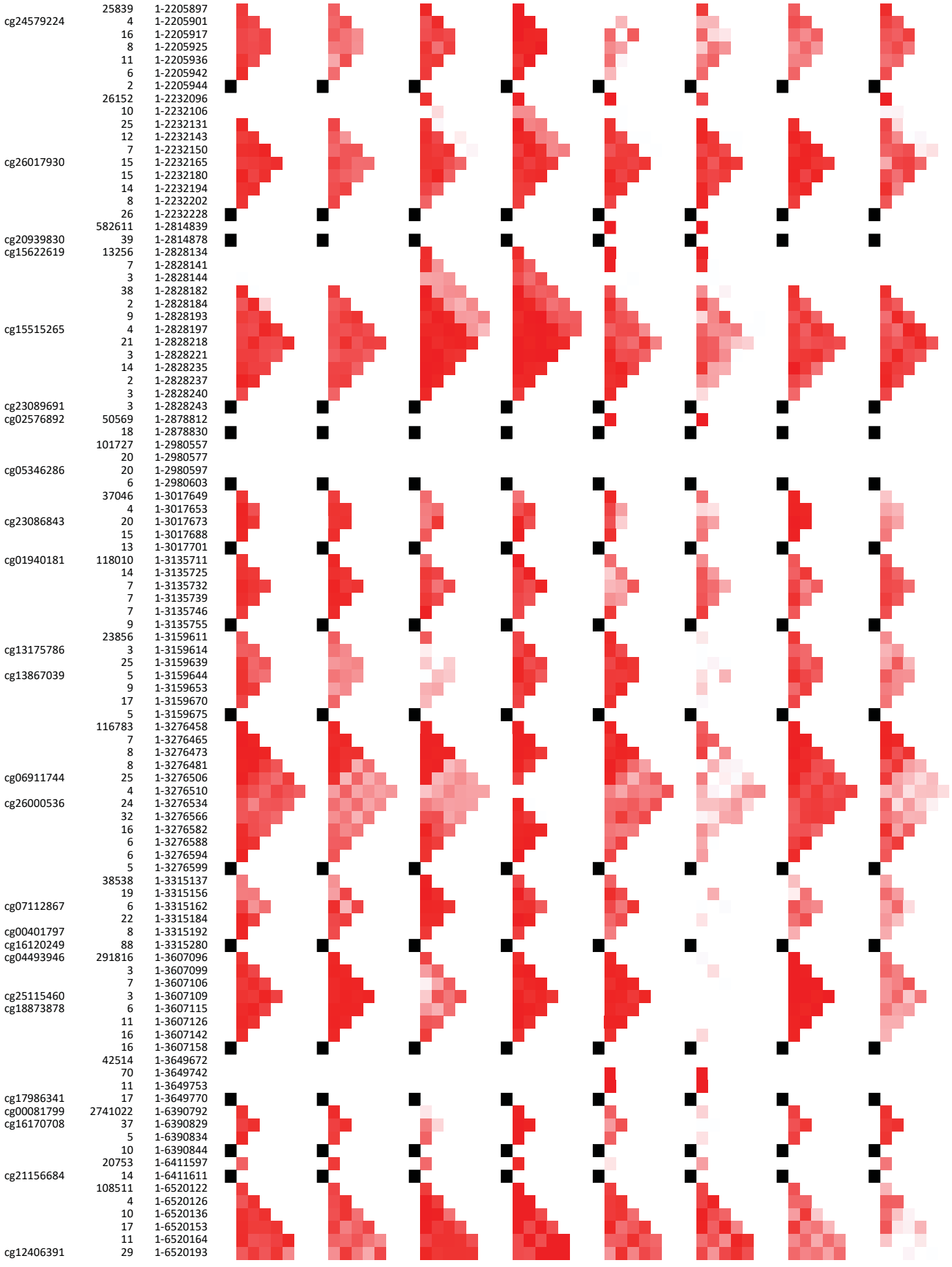
Reference

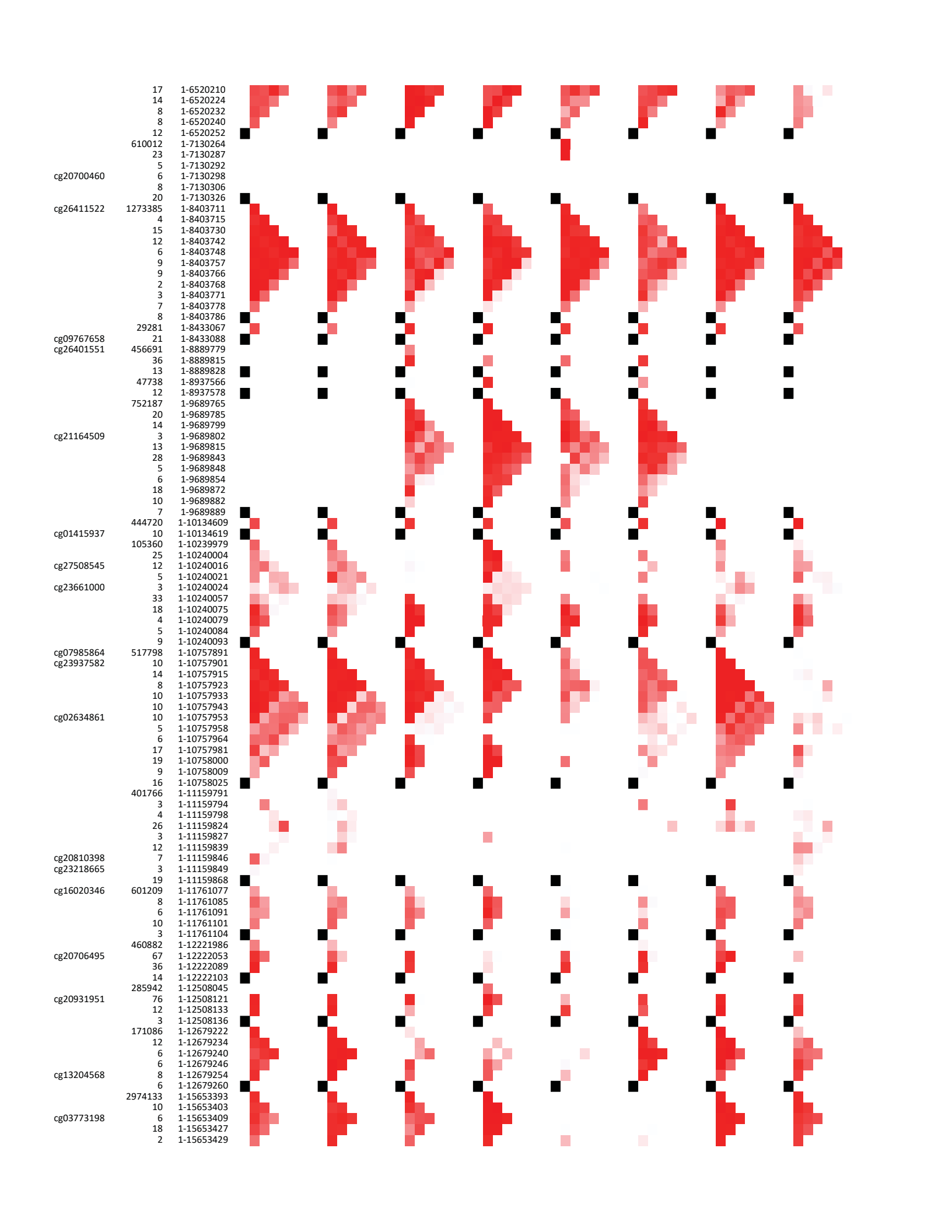
1. Berkeley C (2004) Linear models and empirical Bayes methods for assessing differential expression in microarray experiments. *E-book available at* http://www/. *bepress. com/sagmb/vol3/iss1/art3.[PubMed]*.
2. Benjamini Y & Hochberg Y (1995) Controlling the false discovery rate: a practical and powerful approach to multiple testing. *Journal of the royal statistical society. Series B (Methodological)*:289-300.
3. Friedman J, Hastie T, & Tibshirani R (2010) Regularization paths for generalized linear models via coordinate descent. *Journal of statistical software* 33(1):1.
4. Wasserman L & Roeder K (2009) High dimensional variable selection. *Annals of statistics* 37(5A):2178.
5. Tibshirani R (1996) Regression shrinkage and selection via the lasso. *Journal of the Royal Statistical Society. Series B (Methodological)*:267-288.
6. Zou H & Hastie T (2005) Regularization and variable selection via the elastic net. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)* 67(2):301-320.
7. Witten DM & Tibshirani R (2008) Testing significance of features by lassoed principal components. *The annals of applied statistics* 2(3):986.
8. Friedman JH (2001) Greedy function approximation: a gradient boosting machine. *Annals of statistics*:1189-1232.
9. O'Quigley J, Xu R, & Stare J (2005) Explained randomness in proportional hazards models. *Statistics in medicine* 24(3):479-489.
10. Harrell FE, Lee KL, & Mark DB (1996) Tutorial in biostatistics multivariable prognostic models: issues in developing models, evaluating assumptions and adequacy, and measuring and reducing errors. *Statistics in medicine* 15:361-387.
11. Meinshausen N, Meier L, & Bühlmann P (2012) P-values for high-dimensional regression. *Journal of the American Statistical Association*.
12. Porreca GJ*, et al.* (2007) Multiplex amplification of large sets of human exons. *Nature methods* 4(11):931-936.
13. Diep D*, et al.* (2012) Library-free methylation sequencing with bisulfite padlock probes. *Nat Methods* 9(3):270-272.
14. Deng J*, et al.* (2009) Targeted bisulfite sequencing reveals changes in DNA methylation associated with nuclear reprogramming. *Nature biotechnology* 27(4):353-360.
15. Langmead B & Salzberg SL (2012) Fast gapped-read alignment with Bowtie 2. *Nat Methods* 9(4):357-359.
16. Wall JD & Pritchard JK (2003) Haplotype blocks and linkage disequilibrium in the human genome. *Nature Reviews Genetics* 4(8):587-597.
17. Yao L, Shen H, Laird PW, Farnham PJ, & Berman BP (2015) Inferring regulatory element landscapes and transcription factor networks from cancer methylomes. *Genome Biol* 16:105.
18. He G*, et al.* (2013) Identification of liver cancer progenitors whose malignant progression depends on autocrine IL-6 signaling. *Cell* 155(2):384-396.

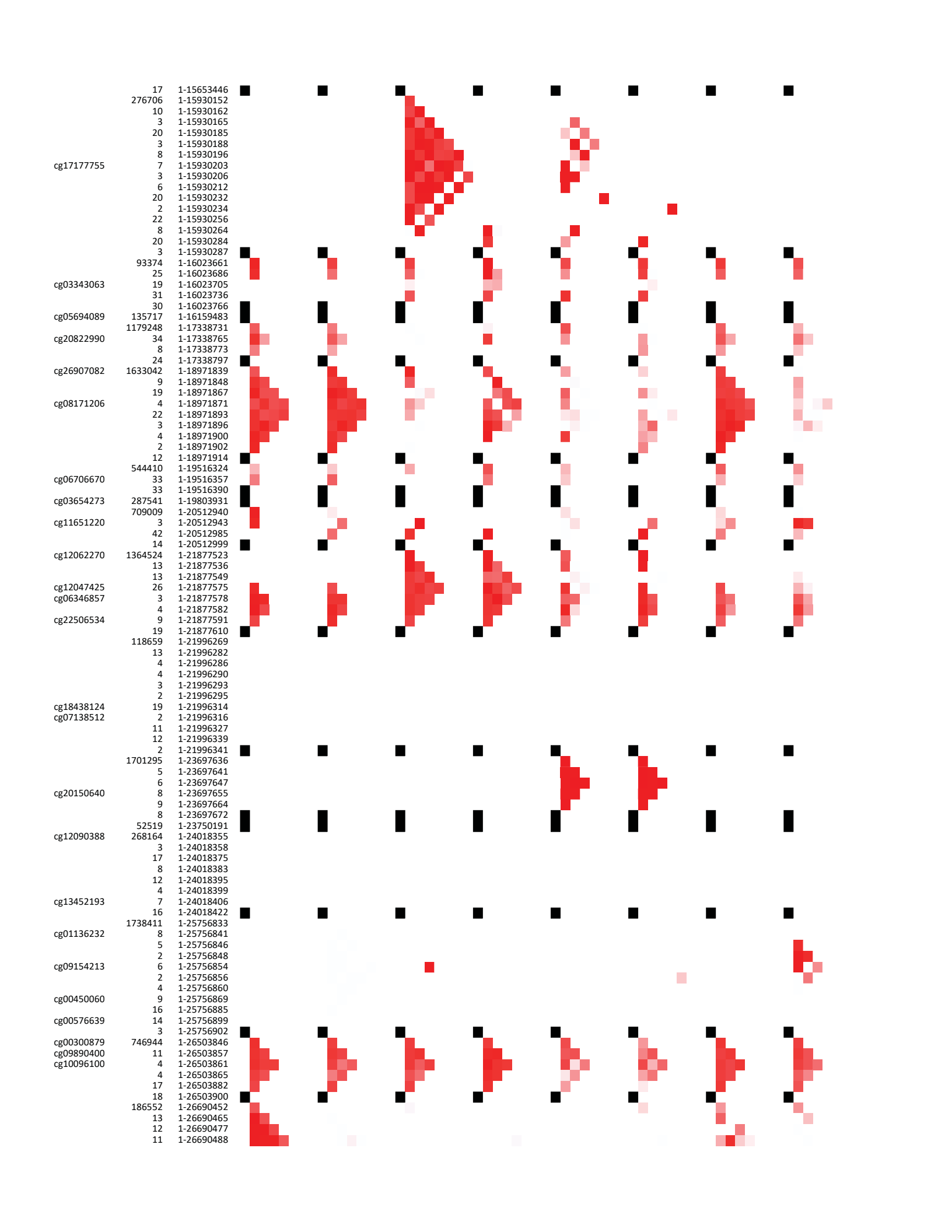
Suppl Fig 1

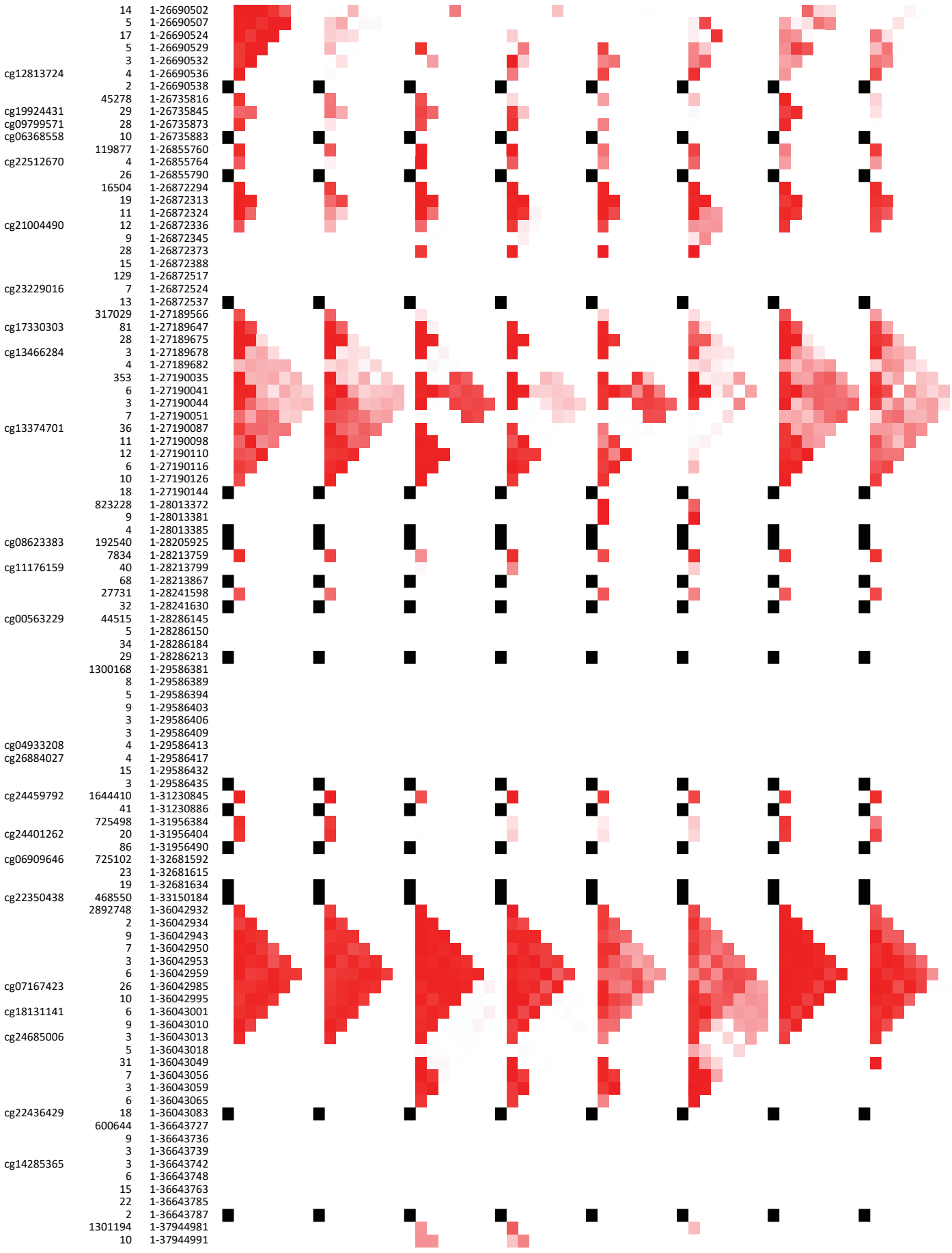


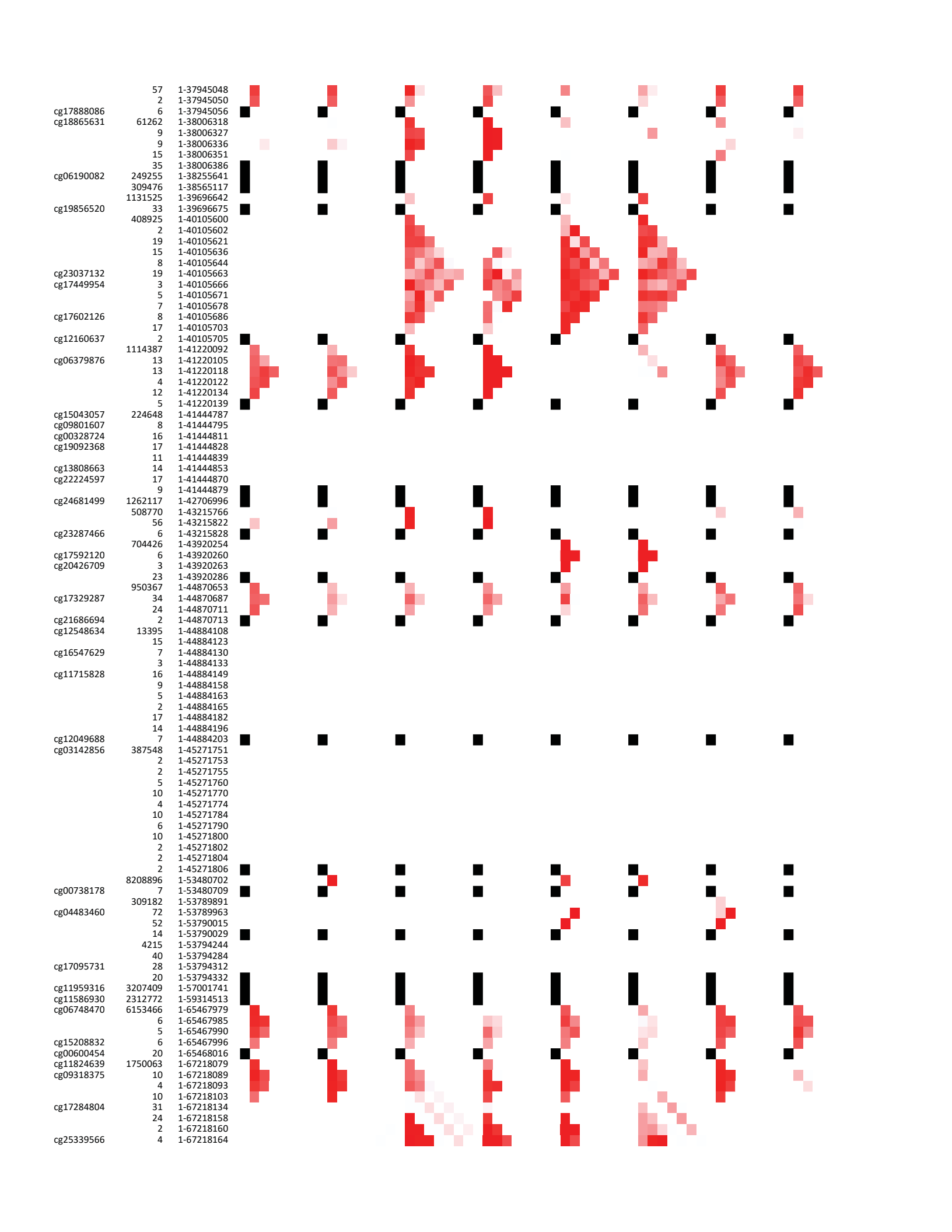

normal lung
LUAD
normal liver
LIHC
normal colon
COAD
normal breast
BRCA
location (chromosome - position)
distance to previous CG
450k markers
1-942118 1-942160 1-942163 1-942197 1-942225 1-942353 1-942360 1-942367 1-942370 1-942404 1-942437 1-942441 1-942450 1-942458 1-942468 1-942470 1-942473 1-942480 1-942488 1-942497 1-942552 1-1065799 1-1065814 1-1065819 1-1065822 1-1065827 1-1065829 1-1065832 1-1065834 1-1065863 1-1065866 1-2003511 1-2003534 1-2003543 1-2003576 1-2003604 1-2003611 1-2003642 1-2003649 1-2005082 1-2005122 1-2005131 1-2005142 1-2005179 1-2005195 1-2005203 1-2005221 1-2005223 1-2005485 1-2005488 1-2005494 1-2005505 1-2005521 1-2005533 1-2005545 1-2005550 1-2005559 1-2005563 1-2005597 1-2005620 1-2066593 1-2066598 1-2066602 1-2066616 1-2066630 1-2066645 1-2066653 1-2066664 1-2139280 1-2139295 1-2139306 1-2139317 1-2139326 1-2139332 1-2139347 1-2139395 1-2139399 1-2139401 1-2139403 1-2139405 1-2139411 1-2179957 1-2179994 1-2180026 1-2180031 1-2180034 1-2180041 1-2180058
42 3 34 28 128 7 7 3 34 33 4 9 8 10 2 3 7 8 9 55 123247 15 5 3 5 2 3 2 29 3 937645 23 9 33 28 7 31 7 1433 40 9 11 37 16 8 18 2 262 3 6 11 16 12 12 5 9 4 34 23 60973 5 4 14 14 15 8 11 72616 15 11 11 9 6 15 48 4 2 2 2 6 40546 37 32 5 3 7 17
cg13219080 cg09364122 cg17006413 cg21472517 cg18019572 cg22673826 cg17094363 cg04314111 cg22332339 cg11227141 cg04520340 cg16653138 cg14418633 cg03001333 cg13591369 cg00866690 cg26031954 cg02360367

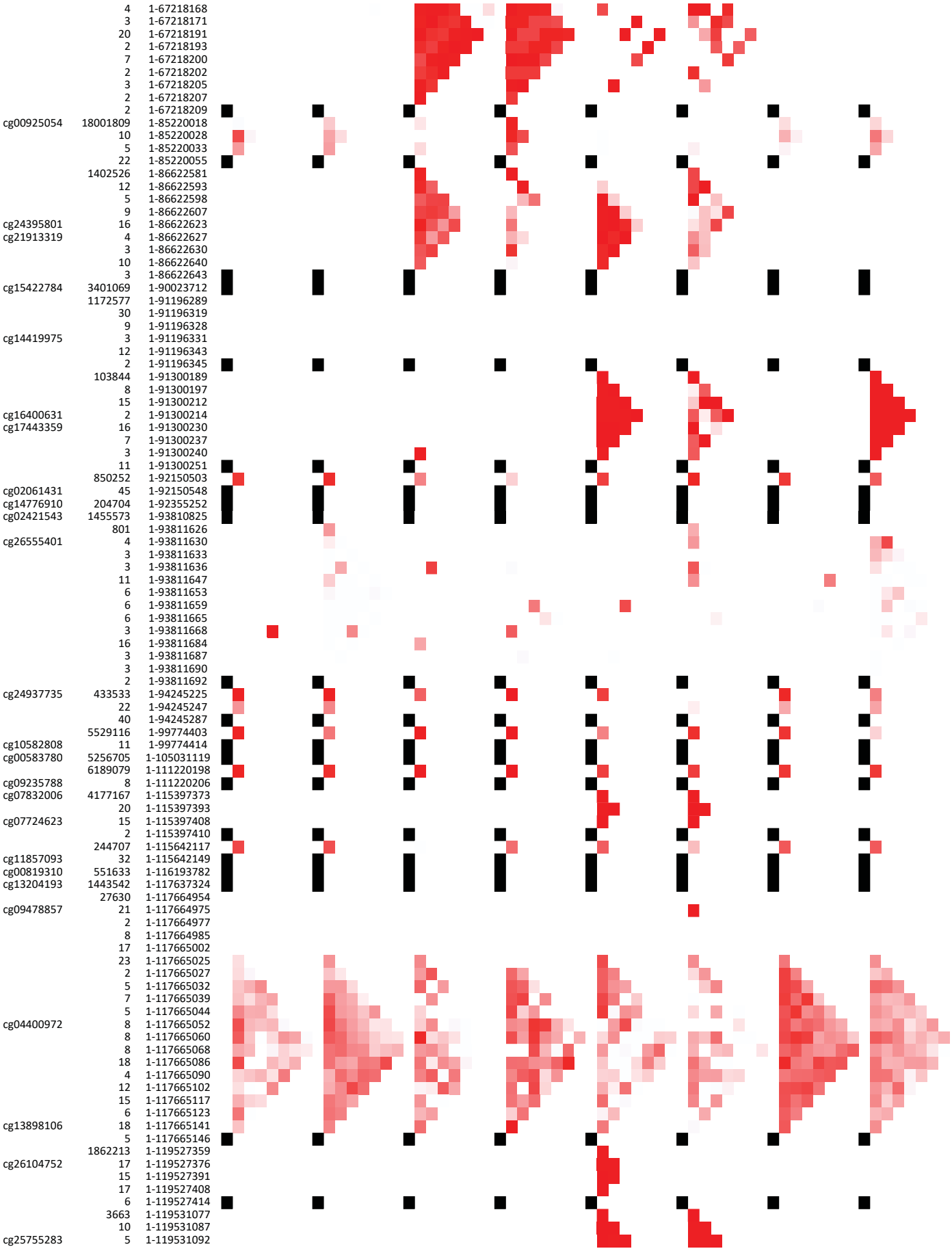

25839 1-2205897
cg24579224 4 1-2205901
16 1-2205917
8 1-2205925
11 1-2205936
6 1-2205942
2 1-2205944
26152 1-2232096
10 1-2232106
25 1-2232131
12 1-2232143
7 1-2232150
cg26017930 15 1-2232165
15 1-2232180
14 1-2232194
8 1-2232202
26 1-2232228
582611 1-2814839
cg20939830 39 1-2814878
cg15622619 13256 1-2828134
7 1-2828141
3 1-2828144
38 1-2828182
2 1-2828184
9 1-2828193
cg15515265 4 1-2828197
21 1-2828218
3 1-2828221
14 1-2828235
2 1-2828237
3 1-2828240
cg23089691 3 1-2828243
cg02576892 50569 1-2878812
18 1-2878830
101727 1-2980557
20 1-2980577
cg05346286 20 1-2980597
6 1-2980603
37046 1-3017649
4 1-3017653
cg23086843 20 1-3017673
15 1-3017688
13 1-3017701
cg01940181 118010 1-3135711
14 1-3135725
7 1-3135732
7 1-3135739
7 1-3135746
9 1-3135755
23856 1-3159611
cg13175786 3 1-3159614
25 1-3159639
cg13867039 5 1-3159644
9 1-3159653
17 1-3159670
5 1-3159675
116783 1-3276458
7 1-3276465
8 1-3276473
8 1-3276481
cg06911744 25 1-3276506
4 1-3276510
cg26000536 24 1-3276534
32 1-3276566
16 1-3276582
6 1-3276588
6 1-3276594
5 1-3276599
38538 1-3315137
19 1-3315156
cg07112867 6 1-3315162
22 1-3315184
cg00401797 8 1-3315192
cg16120249 88 1-3315280
cg04493946 291816 1-3607096
3 1-3607099
7 1-3607106
cg25115460 3 1-3607109
cg18873878 6 1-3607115
11 1-3607126
16 1-3607142
16 1-3607158
42514 1-3649672
70 1-3649742
11 1-3649753
cg17986341 17 1-3649770
cg00081799 2741022 1-6390792
cg16170708 37 1-6390829
5 1-6390834
10 1-6390844
20753 1-6411597
cg21156684 14 1-6411611
108511 1-6520122
4 1-6520126
10 1-6520136
17 1-6520153
11 1-6520164
cg12406391 29 1-6520193

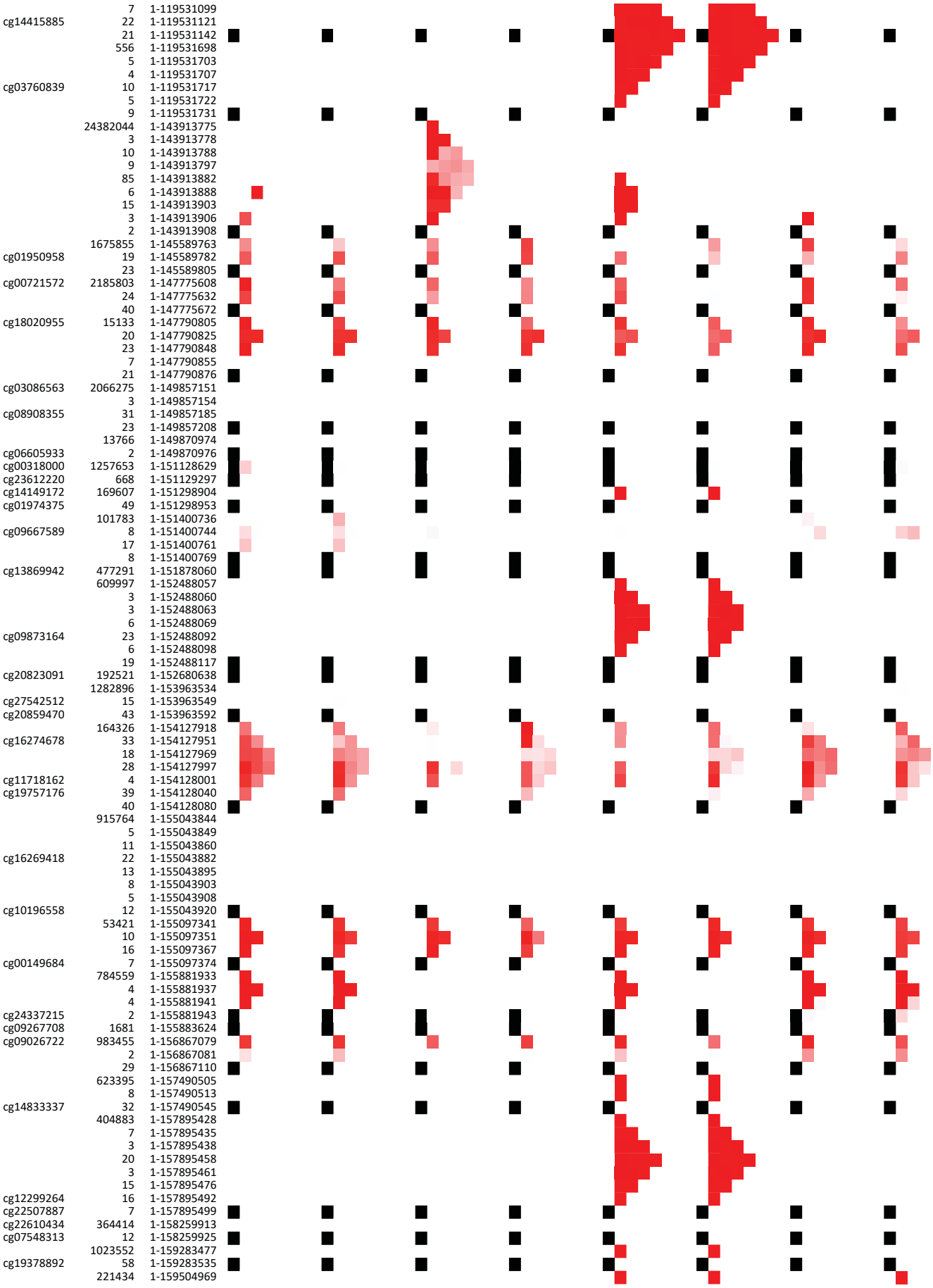


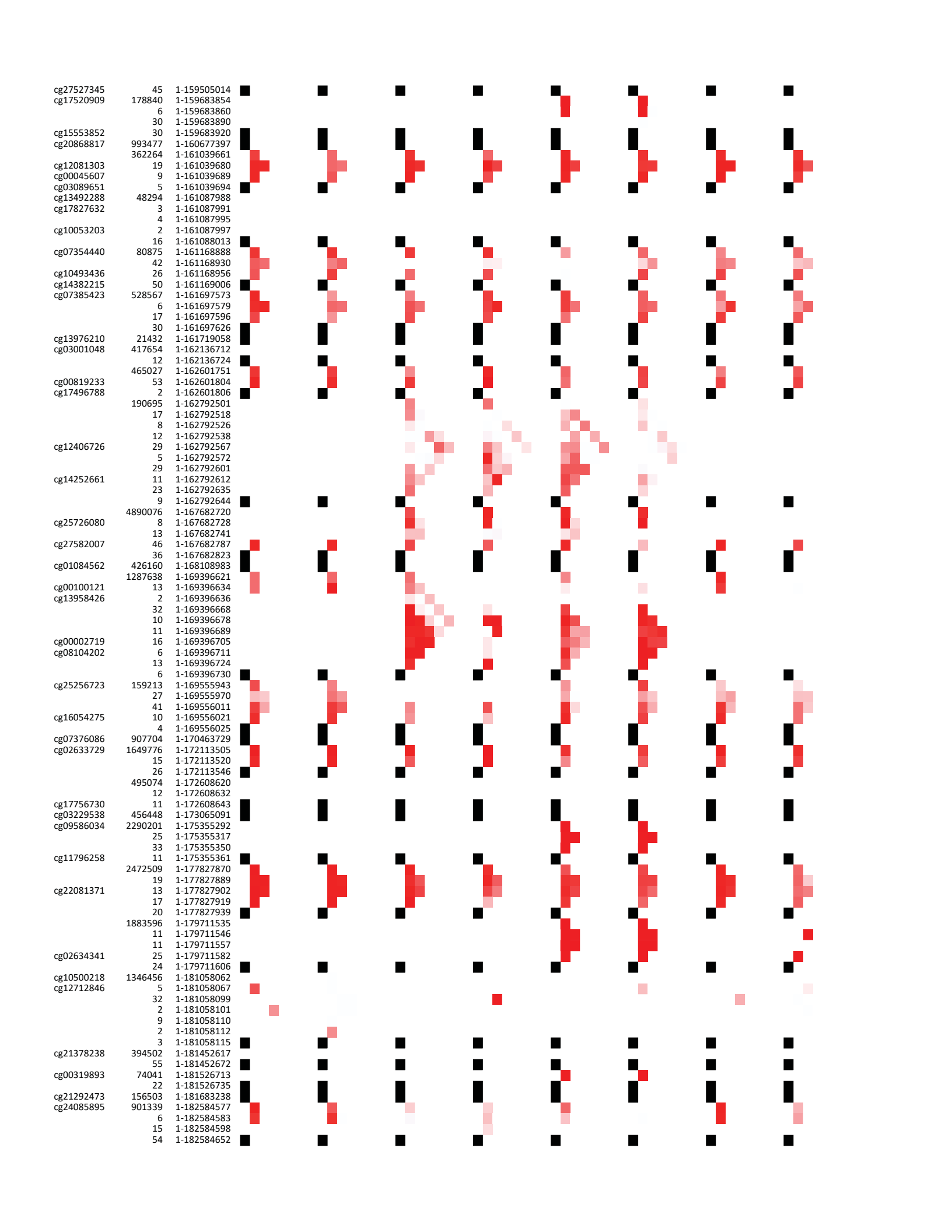

17 1-15653446
276706 1-15930152
10 1-15930162
3 1-15930165
20 1-15930185
3 1-15930188
8 1-15930196
cg17177755 7 1-15930203
3 1-15930206
6 1-15930212
20 1-15930232
2 1-15930234
22 1-15930256
8 1-15930264
20 1-15930284
3 1-15930287
93374 1-16023661
25 1-16023686
cg03343063 19 1-16023705
31 1-16023736
30 1-16023766
cg05694089 135717 1-16159483
1179248 1-17338731
cg20822990 34 1-17338765
8 1-17338773
24 1-17338797
cg26907082 1633042 1-18971839
9 1-18971848
19 1-18971867
cg08171206 4 1-18971871
22 1-18971893
3 1-18971896
4 1-18971900
2 1-18971902
12 1-18971914
544410 1-19516324
cg06706670 33 1-19516357
33 1-19516390
cg03654273 287541 1-19803931
709009 1-20512940
cg11651220 3 1-20512943
42 1-20512985
14 1-20512999
cg12062270 1364524 1-21877523
13 1-21877536
13 1-21877549
cg12047425 26 1-21877575
cg06346857 3 1-21877578
4 1-21877582
cg22506534 9 1-21877591
19 1-21877610
118659 1-21996269
13 1-21996282
4 1-21996286
4 1-21996290
3 1-21996293
2 1-21996295
cg18438124 19 1-21996314
cg07138512 2 1-21996316
11 1-21996327
12 1-21996339
2 1-21996341
1701295 1-23697636
5 1-23697641
6 1-23697647
cg20150640 8 1-23697655
9 1-23697664
8 1-23697672
52519 1-23750191
cg12090388 268164 1-24018355
3 1-24018358
17 1-24018375
8 1-24018383
12 1-24018395
4 1-24018399
cg13452193 7 1-24018406
16 1-24018422
1738411 1-25756833
cg01136232 8 1-25756841
5 1-25756846
2 1-25756848
cg09154213 6 1-25756854
2 1-25756856
4 1-25756860
cg00450060 9 1-25756869
16 1-25756885
cg00576639 14 1-25756899
3 1-25756902
cg00300879 746944 1-26503846
cg09890400 11 1-26503857
cg10096100 4 1-26503861
4 1-26503865
17 1-26503882
18 1-26503900
186552 1-26690452
13 1-26690465
12 1-26690477
11 1-26690488

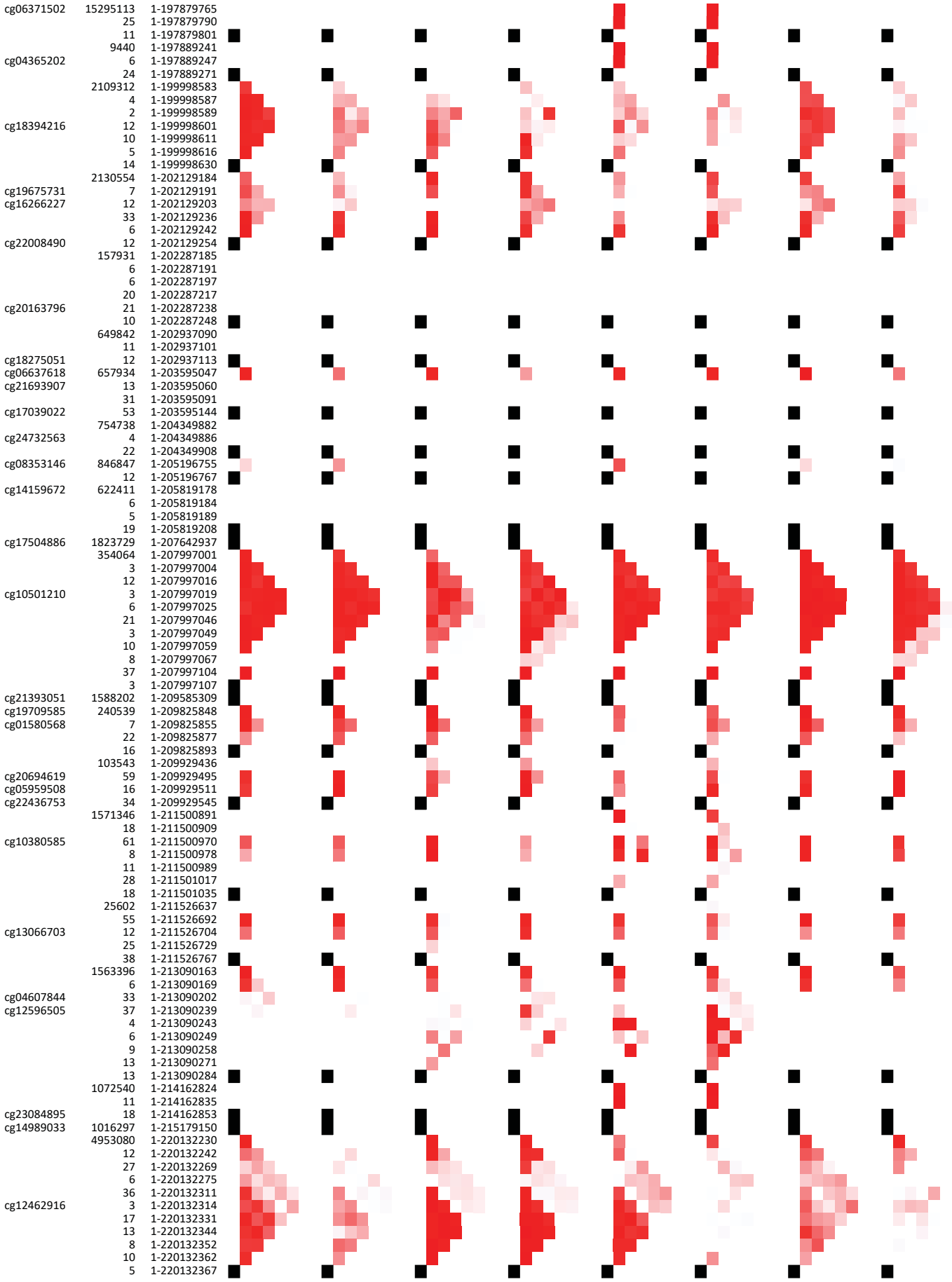

14 1-26690502
5 1-26690507
17 1-26690524
5 1-26690529
3 1-26690532
cg12813724 4 1-26690536
2 1-26690538
45278 1-26735816
cg19924431 29 1-26735845
cg09799571 28 1-26735873
cg06368558 10 1-26735883
119877 1-26855760
cg22512670 4 1-26855764
26 1-26855790
16504 1-26872294
19 1-26872313
11 1-26872324
cg21004490 12 1-26872336
9 1-26872345
28 1-26872373
15 1-26872388
129 1-26872517
cg23229016 7 1-26872524
13 1-26872537
317029 1-27189566
cg17330303 81 1-27189647
28 1-27189675
cg13466284 3 1-27189678
4 1-27189682
353 1-27190035
6 1-27190041
3 1-27190044
7 1-27190051
cg13374701 36 1-27190087
11 1-27190098
12 1-27190110
6 1-27190116
10 1-27190126
18 1-27190144
823228 1-28013372
9 1-28013381
4 1-28013385
cg08623383 192540 1-28205925
7834 1-28213759
cg11176159 40 1-28213799
68 1-28213867
27731 1-28241598
32 1-28241630
cg00563229 44515 1-28286145
5 1-28286150
34 1-28286184
29 1-28286213
1300168 1-29586381
8 1-29586389
5 1-29586394
9 1-29586403
3 1-29586406
3 1-29586409
cg04933208 4 1-29586413
cg26884027 4 1-29586417
15 1-29586432
3 1-29586435
cg24459792 1644410 1-31230845
41 1-31230886
725498 1-31956384
cg24401262 20 1-31956404
86 1-31956490
cg06909646 725102 1-32681592
23 1-32681615
19 1-32681634
cg22350438 468550 1-33150184
2892748 1-36042932
2 1-36042934
9 1-36042943
7 1-36042950
3 1-36042953
6 1-36042959
cg07167423 26 1-36042985
10 1-36042995
cg18131141 6 1-36043001
9 1-36043010
cg24685006 3 1-36043013
5 1-36043018
31 1-36043049
7 1-36043056
3 1-36043059
6 1-36043065
cg22436429 18 1-36043083
600644 1-36643727
9 1-36643736
3 1-36643739
cg14285365 3 1-36643742
6 1-36643748
15 1-36643763
22 1-36643785
2 1-36643787
1301194 1-37944981
10 1-37944991

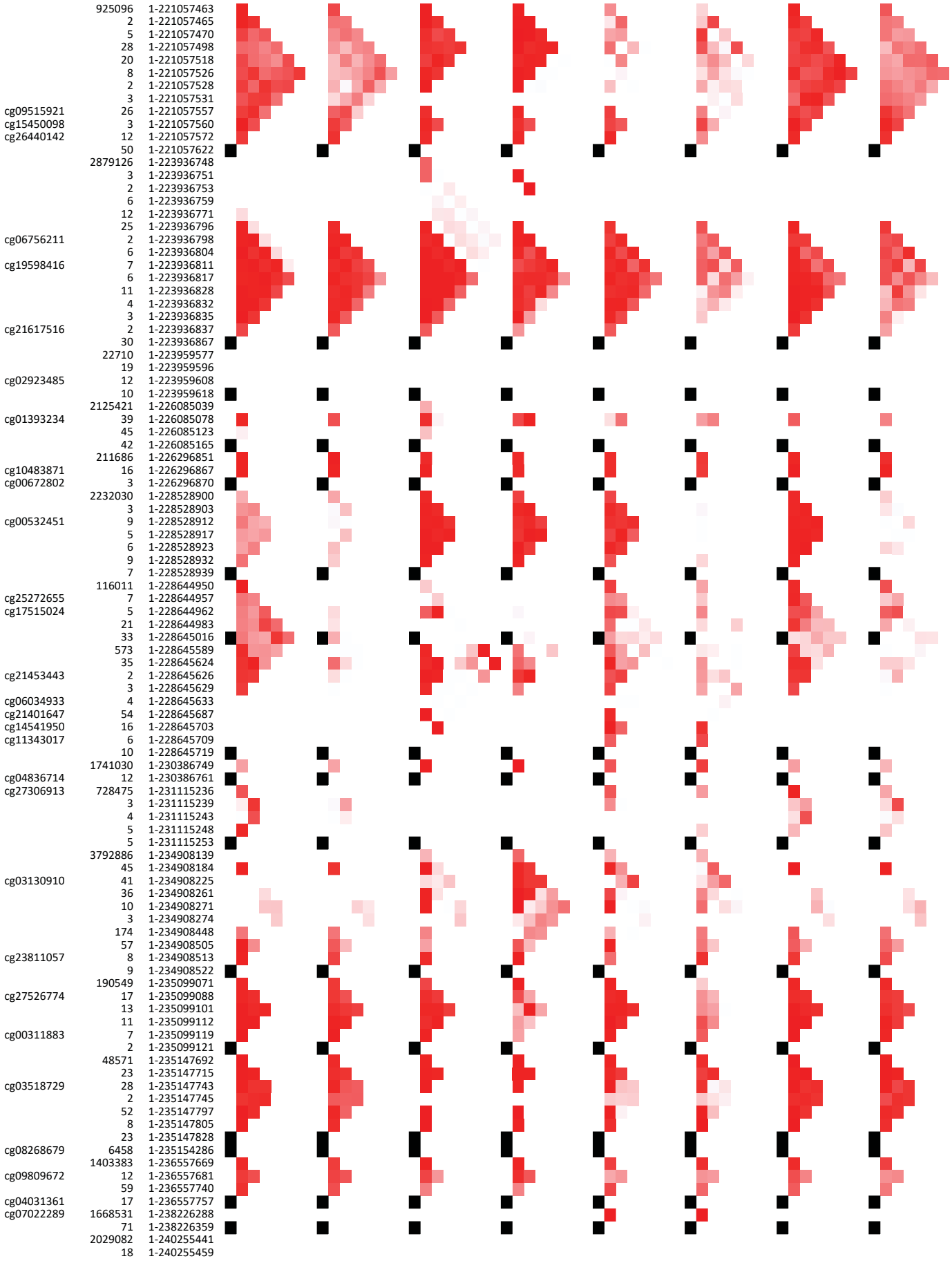


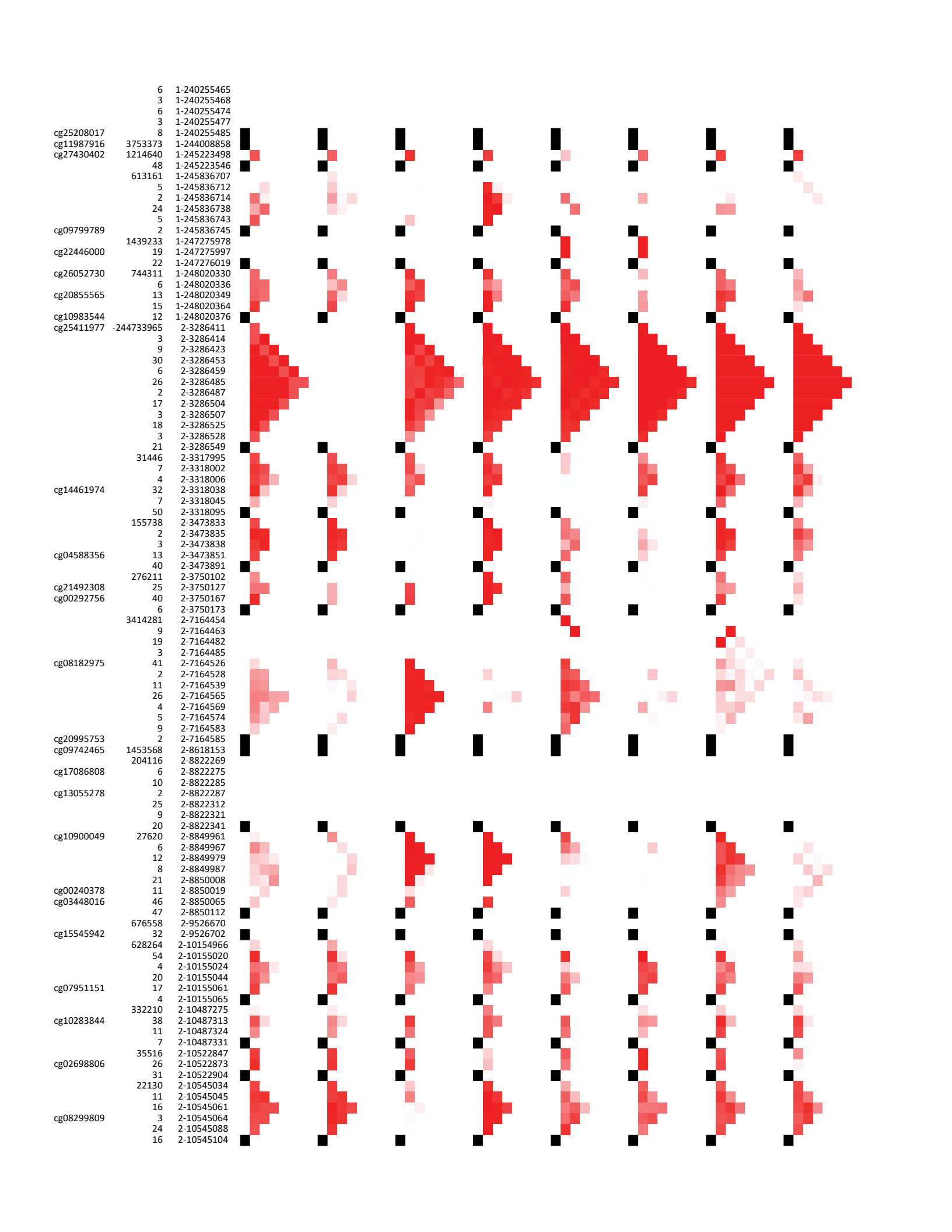


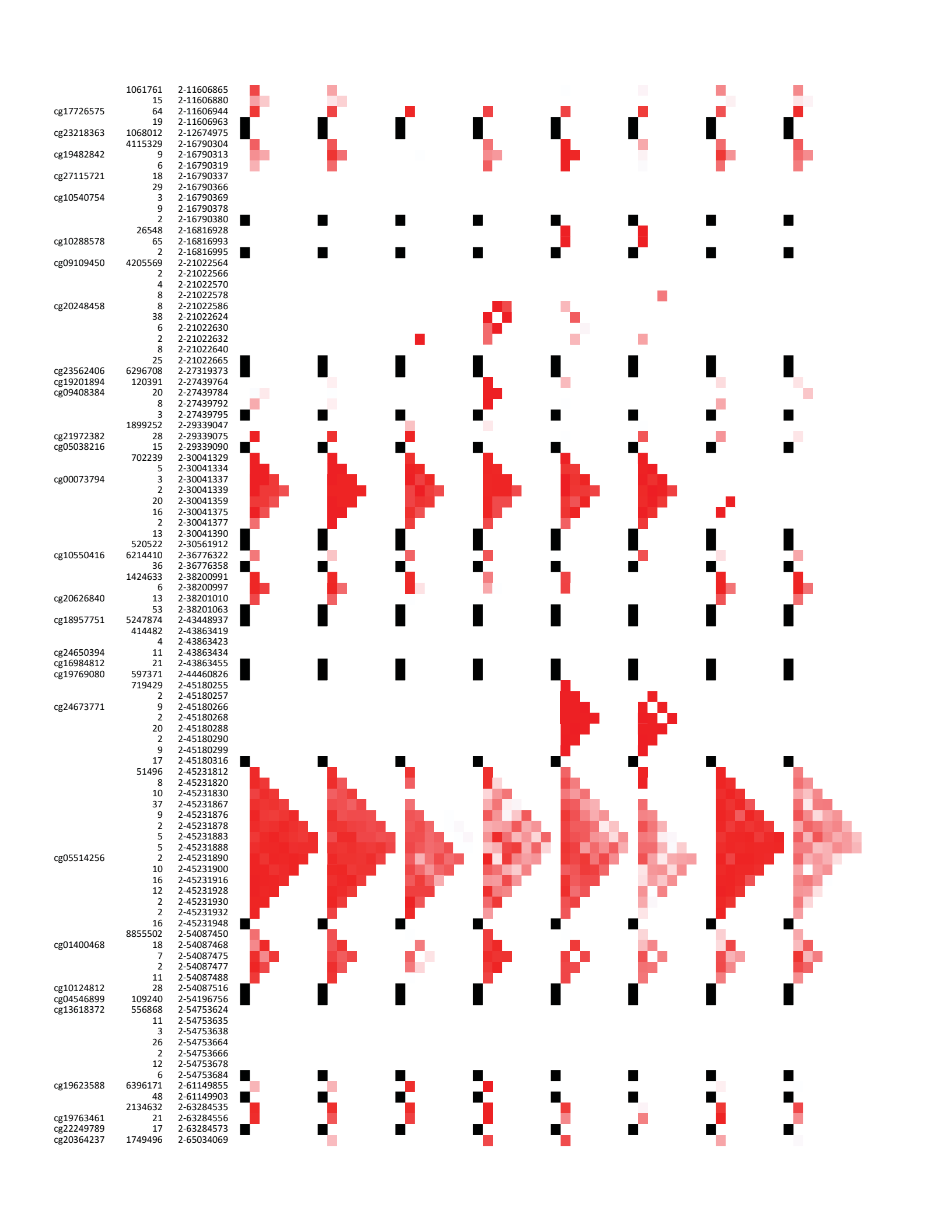


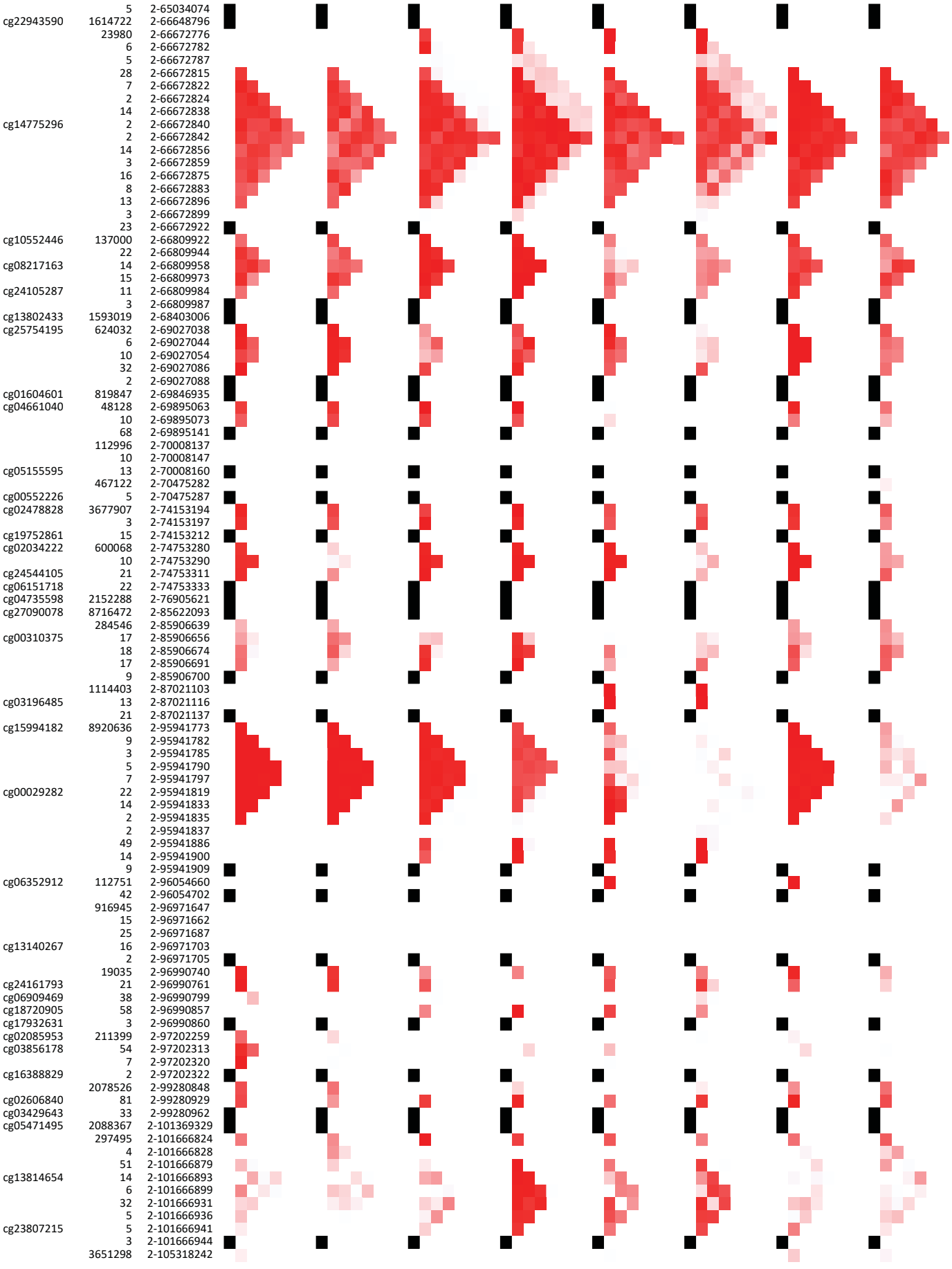

cg27527345 45 1-159505014
cg17520909 178840 1-159683854
6 1-159683860
30 1-159683890
cg15553852 30 1-159683920
cg20868817 993477 1-160677397
362264 1-161039661
cg12081303 19 1-161039680
cg00045607 9 1-161039689
cg03089651 5 1-161039694
cg13492288 48294 1-161087988
cg17827632 3 1-161087991
4 1-161087995
cg10053203 2 1-161087997
16 1-161088013
cg07354440 80875 1-161168888
42 1-161168930
cg10493436 26 1-161168956
cg14382215 50 1-161169006
cg07385423 528567 1-161697573
6 1-161697579
17 1-161697596
30 1-161697626
cg13976210 21432 1-161719058
cg03001048 417654 1-162136712
12 1-162136724
465027 1-162601751
cg00819233 53 1-162601804
cg17496788 2 1-162601806
190695 1-162792501
17 1-162792518
8 1-162792526
12 1-162792538
cg12406726 29 1-162792567
5 1-162792572
29 1-162792601
cg14252661 11 1-162792612
23 1-162792635
9 1-162792644
4890076 1-167682720
cg25726080 8 1-167682728
13 1-167682741
cg27582007 46 1-167682787
36 1-167682823
cg01084562 426160 1-168108983
1287638 1-169396621
cg00100121 13 1-169396634
cg13958426 2 1-169396636
32 1-169396668
10 1-169396678
11 1-169396689
cg00002719 16 1-169396705
cg08104202 6 1-169396711
13 1-169396724
6 1-169396730
cg25256723 159213 1-169555943
27 1-169555970
41 1-169556011
cg16054275 10 1-169556021
4 1-169556025
cg07376086 907704 1-170463729
cg02633729 1649776 1-172113505
15 1-172113520
26 1-172113546
495074 1-172608620
12 1-172608632
cg17756730 11 1-172608643
cg03229538 456448 1-173065091
cg09586034 2290201 1-175355292
25 1-175355317
33 1-175355350
cg11796258 11 1-175355361
2472509 1-177827870
19 1-177827889
cg22081371 13 1-177827902
17 1-177827919
20 1-177827939
1883596 1-179711535
11 1-179711546
11 1-179711557
cg02634341 25 1-179711582
24 1-179711606
cg10500218 1346456 1-181058062
cg12712846 5 1-181058067
32 1-181058099
2 1-181058101
9 1-181058110
2 1-181058112
3 1-181058115
cg21378238 394502 1-181452617
55 1-181452672
cg00319893 74041 1-181526713
22 1-181526735
cg21292473 156503 1-181683238
cg24085895 901339 1-182584577
6 1-182584583
15 1-182584598
54 1-182584652

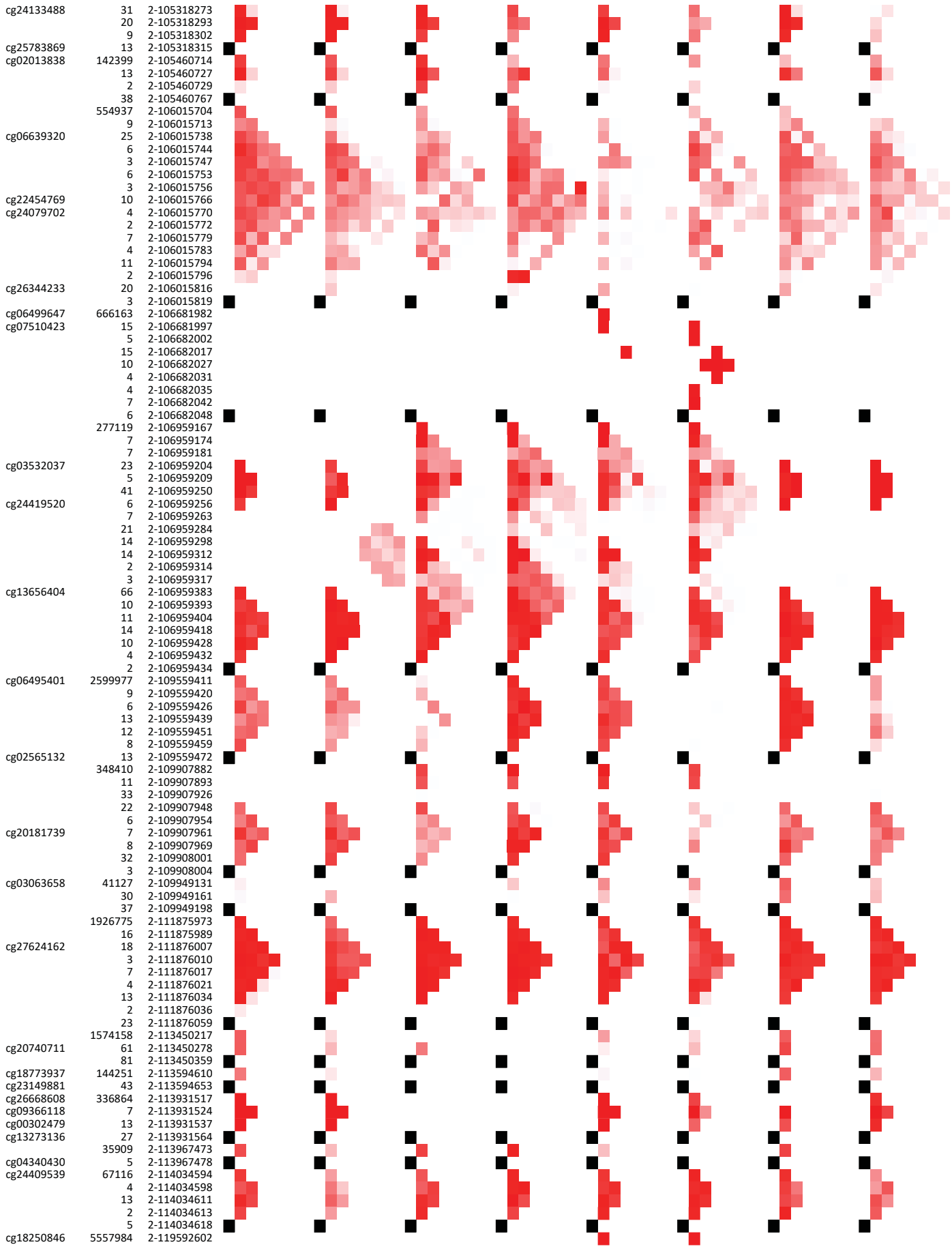

cg06371502 15295113 1-197879765
25 1-197879790
11 1-197879801
9440 1-197889241
cg04365202 6 1-197889247
24 1-197889271
2109312 1-199998583
4 1-199998587
2 1-199998589
cg18394216 12 1-199998601
10 1-199998611
5 1-199998616
14 1-199998630
2130554 1-202129184
cg19675731 7 1-202129191
cg16266227 12 1-202129203
33 1-202129236
6 1-202129242
cg22008490 12 1-202129254
157931 1-202287185
6 1-202287191
6 1-202287197
20 1-202287217
cg20163796 21 1-202287238
10 1-202287248
649842 1-202937090
11 1-202937101
cg18275051 12 1-202937113
cg06637618 657934 1-203595047
cg21693907 13 1-203595060
31 1-203595091
cg17039022 53 1-203595144
754738 1-204349882
cg24732563 4 1-204349886
22 1-204349908
cg08353146 846847 1-205196755
12 1-205196767
cg14159672 622411 1-205819178
6 1-205819184
5 1-205819189
19 1-205819208
cg17504886 1823729 1-207642937
354064 1-207997001
3 1-207997004
12 1-207997016
cg10501210 3 1-207997019
6 1-207997025
21 1-207997046
3 1-207997049
10 1-207997059
8 1-207997067
37 1-207997104
3 1-207997107
cg21393051 1588202 1-209585309
cg19709585 240539 1-209825848
cg01580568 7 1-209825855
22 1-209825877
16 1-209825893
103543 1-209929436
cg20694619 59 1-209929495
cg05959508 16 1-209929511
cg22436753 34 1-209929545
1571346 1-211500891
18 1-211500909
cg10380585 61 1-211500970
8 1-211500978
11 1-211500989
28 1-211501017
18 1-211501035
25602 1-211526637
55 1-211526692
cg13066703 12 1-211526704
25 1-211526729
38 1-211526767
1563396 1-213090163
6 1-213090169
cg04607844 33 1-213090202
cg12596505 37 1-213090239
4 1-213090243
6 1-213090249
9 1-213090258
13 1-213090271
13 1-213090284
1072540 1-214162824
11 1-214162835
cg23084895 18 1-214162853
cg14989033 1016297 1-215179150
4953080 1-220132230
12 1-220132242
27 1-220132269
6 1-220132275
36 1-220132311
cg12462916 3 1-220132314
17 1-220132331
13 1-220132344
8 1-220132352
10 1-220132362
5 1-220132367

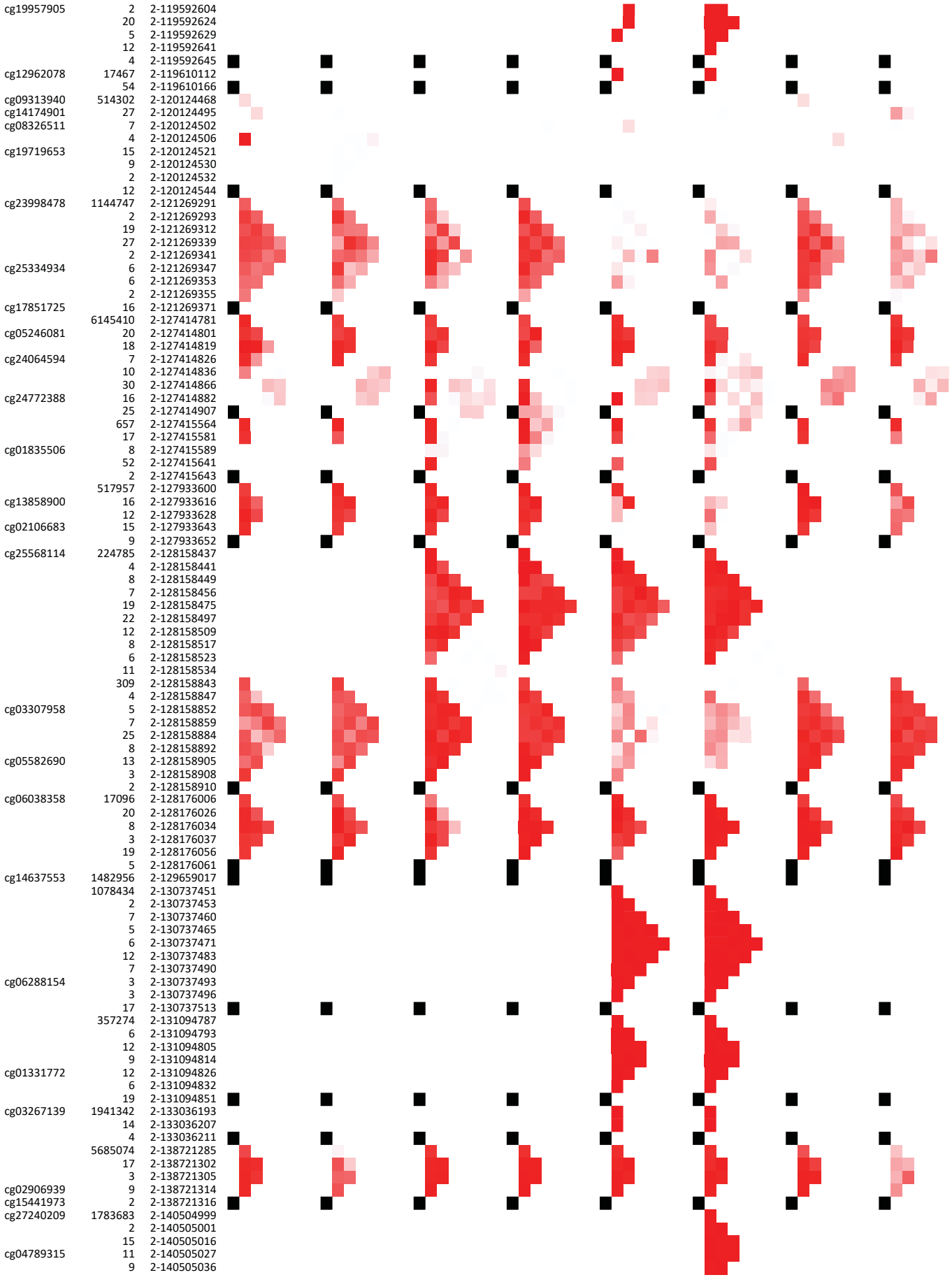

925096 1-221057463
2 1-221057465
5 1-221057470
28 1-221057498
20 1-221057518
8 1-221057526
2 1-221057528
3 1-221057531
cg09515921 26 1-221057557
cg15450098 3 1-221057560
cg26440142 12 1-221057572
50 1-221057622
2879126 1-223936748
3 1-223936751
2 1-223936753
6 1-223936759
12 1-223936771
25 1-223936796
cg06756211 2 1-223936798
6 1-223936804
cg19598416 7 1-223936811
6 1-223936817
11 1-223936828
4 1-223936832
3 1-223936835
cg21617516 2 1-223936837
30 1-223936867
22710 1-223959577
19 1-223959596
cg02923485 12 1-223959608
10 1-223959618
2125421 1-226085039
cg01393234 39 1-226085078
45 1-226085123
42 1-226085165
211686 1-226296851
cg10483871 16 1-226296867
cg00672802 3 1-226296870
2232030 1-228528900
3 1-228528903
cg00532451 9 1-228528912
5 1-228528917
6 1-228528923
9 1-228528932
7 1-228528939
116011 1-228644950
cg25272655 7 1-228644957
cg17515024 5 1-228644962
21 1-228644983
33 1-228645016
573 1-228645589
35 1-228645624
cg21453443 2 1-228645626
3 1-228645629
cg06034933 4 1-228645633
cg21401647 54 1-228645687
cg14541950 16 1-228645703
cg11343017 6 1-228645709
10 1-228645719
1741030 1-230386749
cg04836714 12 1-230386761
cg27306913 728475 1-231115236
3 1-231115239
4 1-231115243
5 1-231115248
5 1-231115253
3792886 1-234908139
45 1-234908184
cg03130910 41 1-234908225
36 1-234908261
10 1-234908271
3 1-234908274
174 1-234908448
57 1-234908505
cg23811057 8 1-234908513
9 1-234908522
190549 1-235099071
cg27526774 17 1-235099088
13 1-235099101
11 1-235099112
cg00311883 7 1-235099119
2 1-235099121
48571 1-235147692
23 1-235147715
cg03518729 28 1-235147743
2 1-235147745
52 1-235147797
8 1-235147805
23 1-235147828
cg08268679 6458 1-235154286
1403383 1-236557669
cg09809672 12 1-236557681
59 1-236557740
cg04031361 17 1-236557757
cg07022289 1668531 1-238226288
71 1-238226359
2029082 1-240255441
18 1-240255459

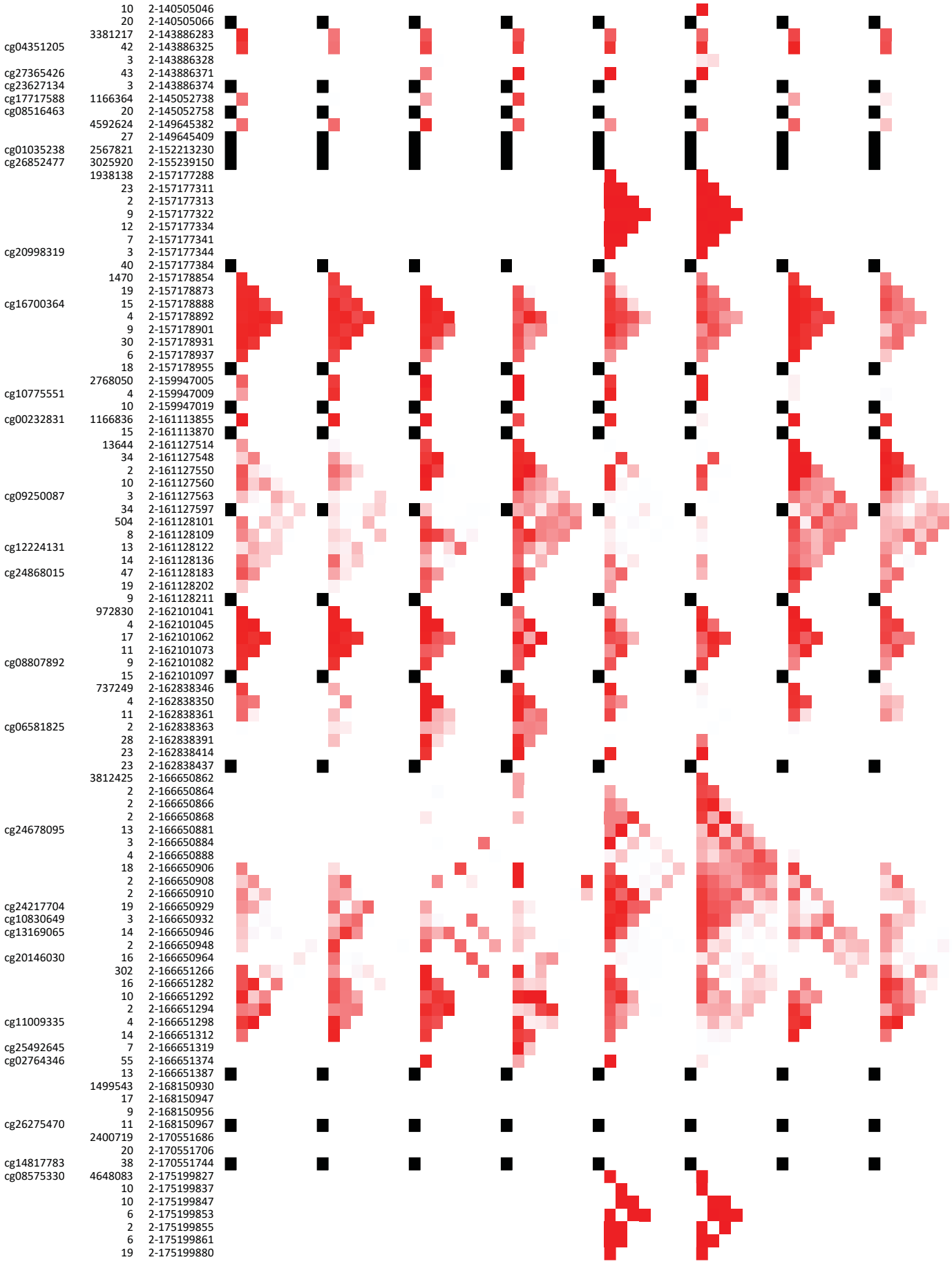

6 1-240255465
3 1-240255468
6 1-240255474
3 1-240255477
cg25208017 8 1-240255485
cg11987916 3753373 1-244008858
cg27430402 1214640 1-245223498
48 1-245223546
613161 1-245836707
5 1-245836712
2 1-245836714
24 1-245836738
5 1-245836743
cg09799789 2 1-245836745
1439233 1-247275978
cg22446000 19 1-247275997
22 1-247276019
cg26052730 744311 1-248020330
6 1-248020336
cg20855565 13 1-248020349
15 1-248020364
cg10983544 12 1-248020376
cg25411977 -244733965 2-3286411
3 2-3286414
9 2-3286423
30 2-3286453
6 2-3286459
26 2-3286485
2 2-3286487
17 2-3286504
3 2-3286507
18 2-3286525
3 2-3286528
21 2-3286549
31446 2-3317995
7 2-3318002
4 2-3318006
cg14461974 32 2-3318038
7 2-3318045
50 2-3318095
155738 2-3473833
2 2-3473835
3 2-3473838
cg04588356 13 2-3473851
40 2-3473891
276211 2-3750102
cg21492308 25 2-3750127
cg00292756 40 2-3750167
6 2-3750173
3414281 2-7164454
9 2-7164463
19 2-7164482
3 2-7164485
cg08182975 41 2-7164526
2 2-7164528
11 2-7164539
26 2-7164565
4 2-7164569
5 2-7164574
9 2-7164583
cg20995753 2 2-7164585
cg09742465 1453568 2-8618153
204116 2-8822269
cg17086808 6 2-8822275
10 2-8822285
cg13055278 2 2-8822287
25 2-8822312
9 2-8822321
20 2-8822341
cg10900049 27620 2-8849961
6 2-8849967
12 2-8849979
8 2-8849987
21 2-8850008
cg00240378 11 2-8850019
cg03448016 46 2-8850065
47 2-8850112
676558 2-9526670
cg15545942 32 2-9526702
628264 2-10154966
54 2-10155020
4 2-10155024
20 2-10155044
cg07951151 17 2-10155061
4 2-10155065
332210 2-10487275
cg10283844 38 2-10487313
11 2-10487324
7 2-10487331
35516 2-10522847
cg02698806 26 2-10522873
31 2-10522904
22130 2-10545034
11 2-10545045
16 2-10545061
cg08299809 3 2-10545064
24 2-10545088
16 2-10545104

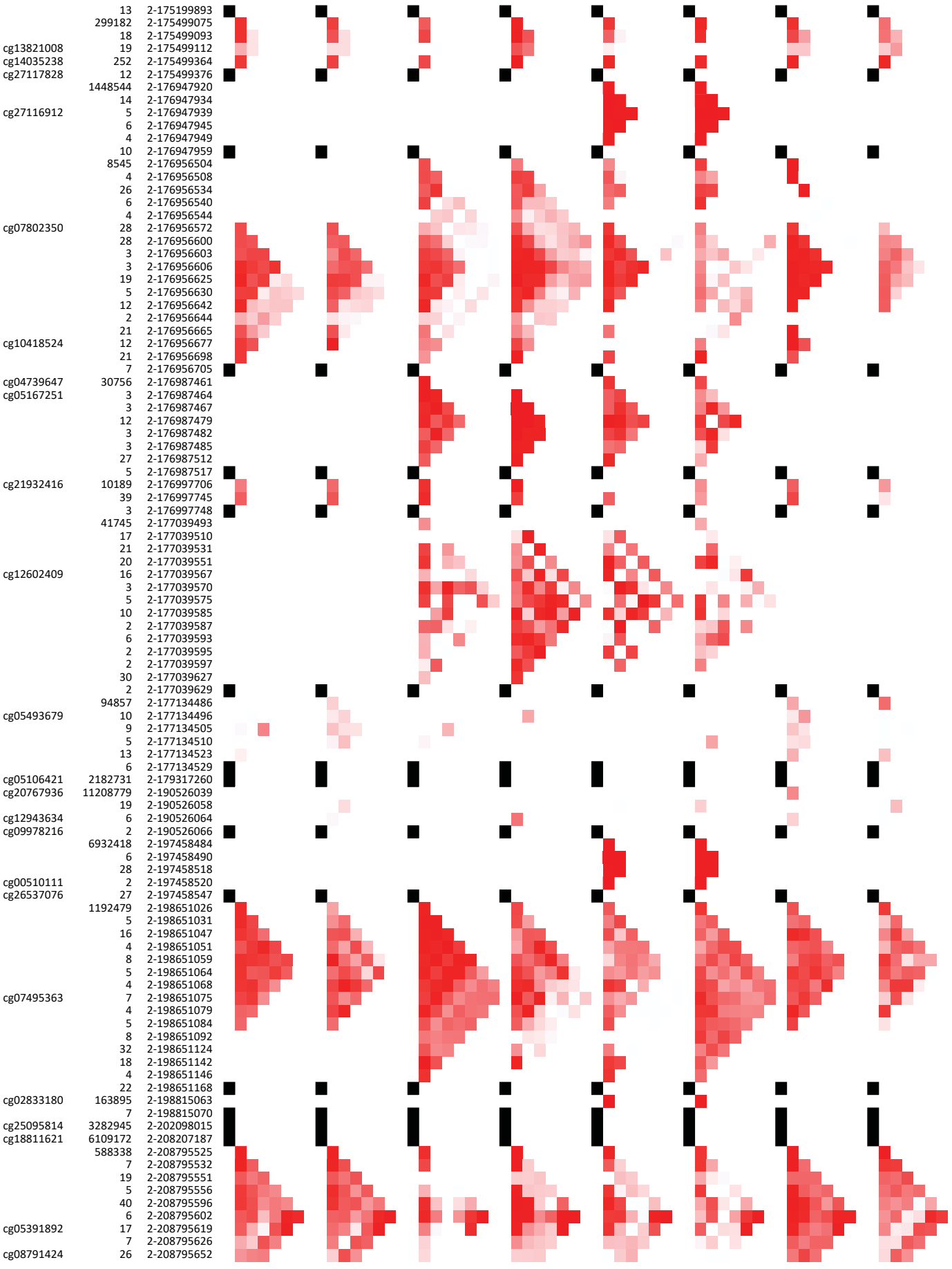


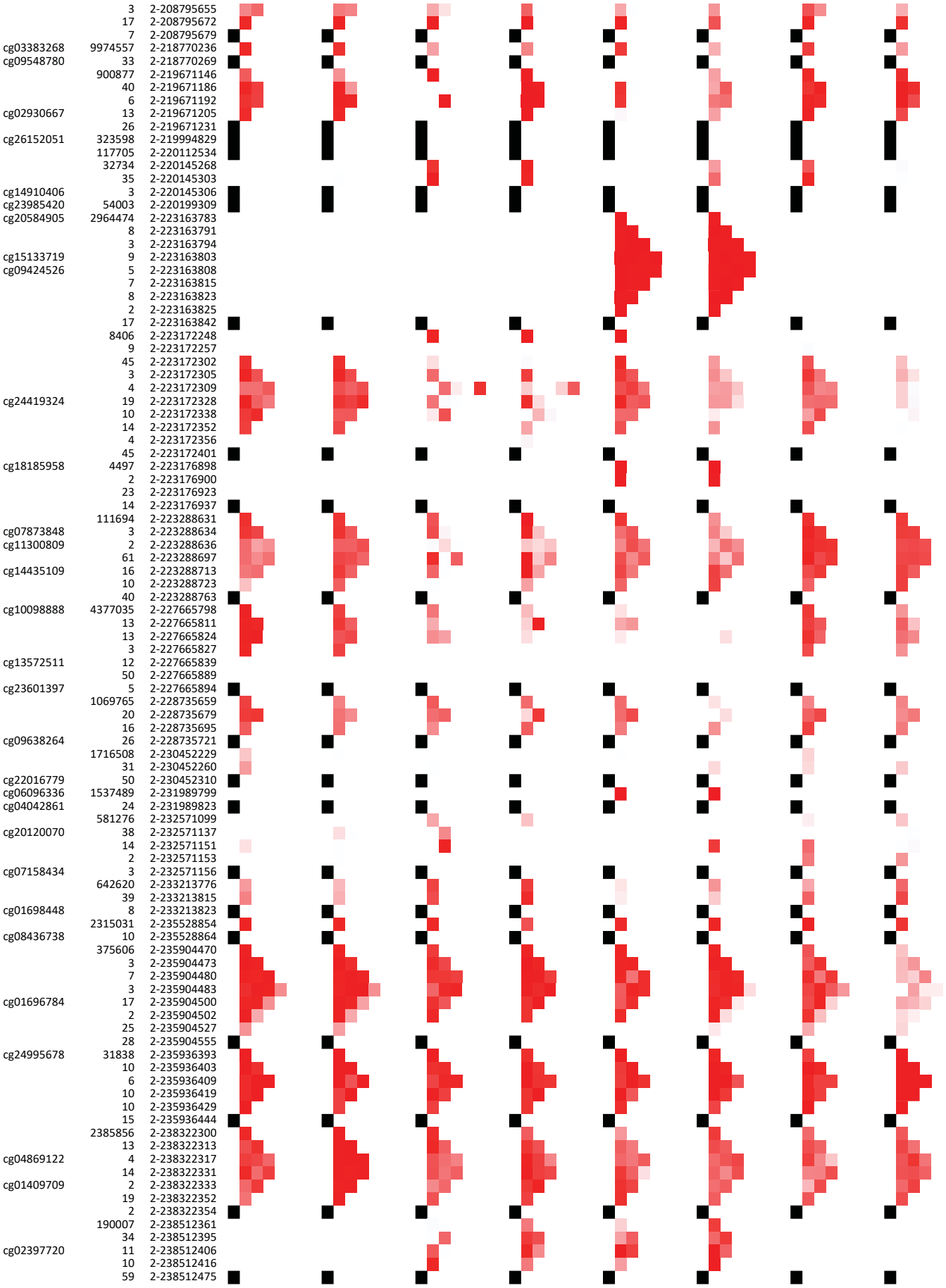


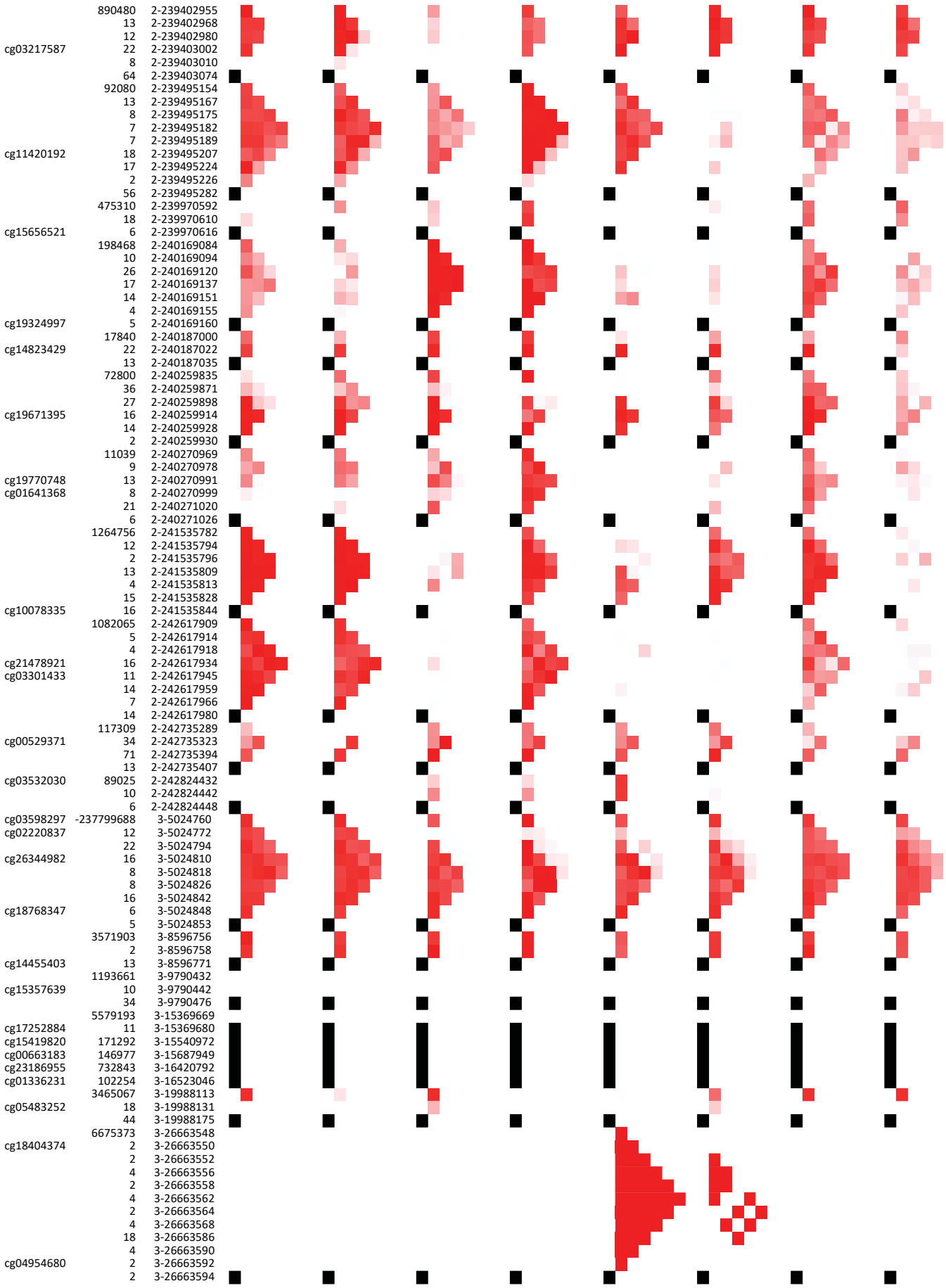

cg24133488 31 2-105318273
20 2-105318293
9 2-105318302
cg25783869 13 2-105318315
cg02013838 142399 2-105460714
13 2-105460727
2 2-105460729
38 2-105460767
554937 2-106015704
9 2-106015713
cg06639320 25 2-106015738
6 2-106015744
3 2-106015747
6 2-106015753
3 2-106015756
cg22454769 10 2-106015766
cg24079702 4 2-106015770
2 2-106015772
7 2-106015779
4 2-106015783
11 2-106015794
2 2-106015796
cg26344233 20 2-106015816
3 2-106015819
cg06499647 666163 2-106681982
cg07510423 15 2-106681997
5 2-106682002
15 2-106682017
10 2-106682027
4 2-106682031
4 2-106682035
7 2-106682042
6 2-106682048
277119 2-106959167
7 2-106959174
7 2-106959181
cg03532037 23 2-106959204
5 2-106959209
41 2-106959250
cg24419520 6 2-106959256
7 2-106959263
21 2-106959284
14 2-106959298
14 2-106959312
2 2-106959314
3 2-106959317
cg13656404 66 2-106959383
10 2-106959393
11 2-106959404
14 2-106959418
10 2-106959428
4 2-106959432
2 2-106959434
cg06495401 2599977 2-109559411
9 2-109559420
6 2-109559426
13 2-109559439
12 2-109559451
8 2-109559459
cg02565132 13 2-109559472
348410 2-109907882
11 2-109907893
33 2-109907926
22 2-109907948
6 2-109907954
cg20181739 7 2-109907961
8 2-109907969
32 2-109908001
3 2-109908004
cg03063658 41127 2-109949131
30 2-109949161
37 2-109949198
1926775 2-111875973
16 2-111875989
cg27624162 18 2-111876007
3 2-111876010
7 2-111876017
4 2-111876021
13 2-111876034
2 2-111876036
23 2-111876059
1574158 2-113450217
cg20740711 61 2-113450278
81 2-113450359
cg18773937 144251 2-113594610
cg23149881 43 2-113594653
cg26668608 336864 2-113931517
cg09366118 7 2-113931524
cg00302479 13 2-113931537
cg13273136 27 2-113931564
35909 2-113967473
cg04340430 5 2-113967478
cg24409539 67116 2-114034594
4 2-114034598
13 2-114034611
2 2-114034613
5 2-114034618
cg18250846 5557984 2-119592602

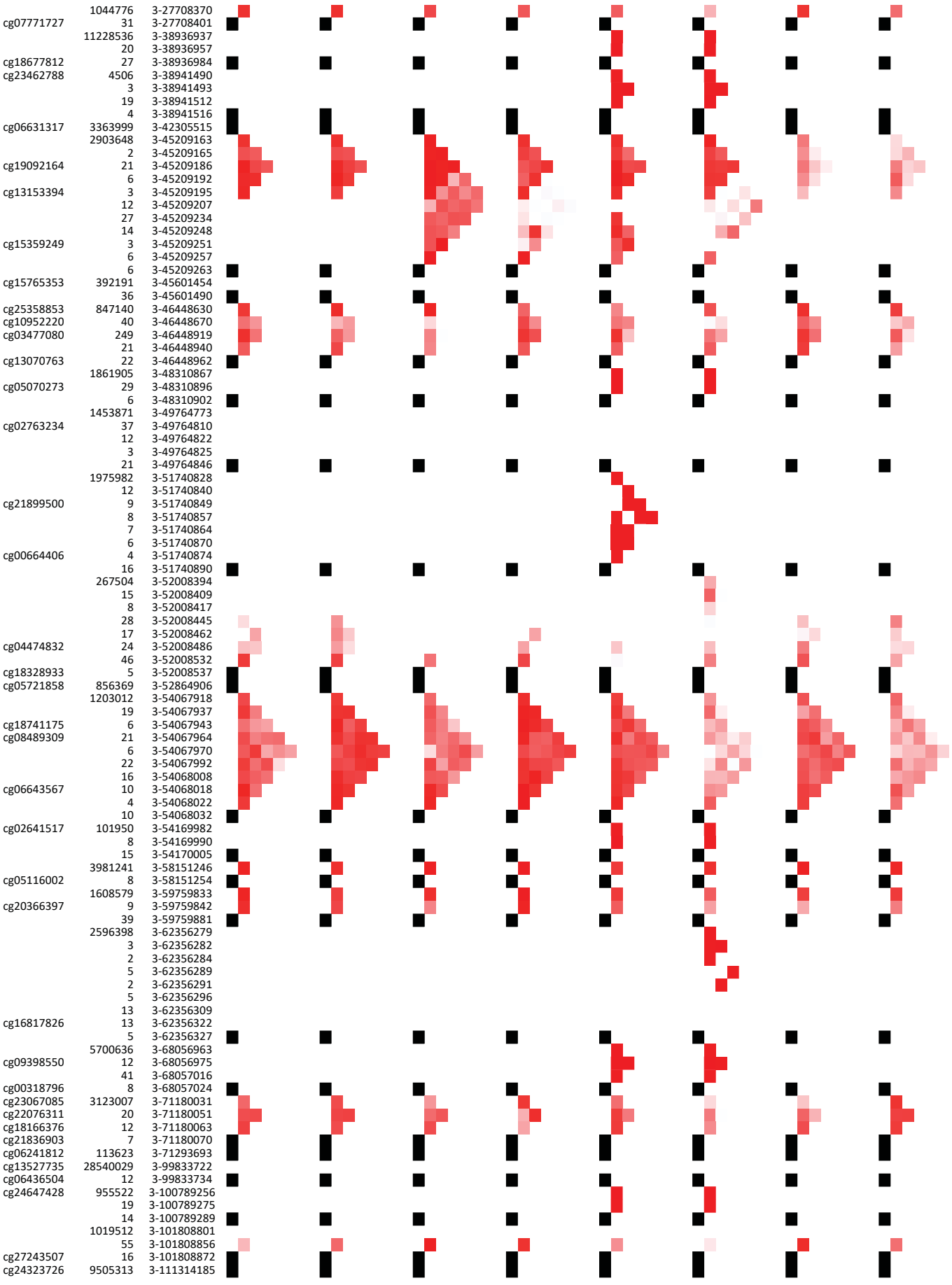

cg19957905 2 2-119592604
20 2-119592624
5 2-119592629
12 2-119592641
4 2-119592645
cg12962078 17467 2-119610112
54 2-119610166
cg09313940 514302 2-120124468
cg14174901 27 2-120124495
cg08326511 7 2-120124502
4 2-120124506
cg19719653 15 2-120124521
9 2-120124530
2 2-120124532
12 2-120124544
cg23998478 1144747 2-121269291
2 2-121269293
19 2-121269312
27 2-121269339
2 2-121269341
cg25334934 6 2-121269347
6 2-121269353
2 2-121269355
cg17851725 16 2-121269371
6145410 2-127414781
cg05246081 20 2-127414801
18 2-127414819
cg24064594 7 2-127414826
10 2-127414836
30 2-127414866
cg24772388 16 2-127414882
25 2-127414907
657 2-127415564
17 2-127415581
cg01835506 8 2-127415589
52 2-127415641
2 2-127415643
517957 2-127933600
cg13858900 16 2-127933616
12 2-127933628
cg02106683 15 2-127933643
9 2-127933652
cg25568114 224785 2-128158437
4 2-128158441
8 2-128158449
7 2-128158456
19 2-128158475
22 2-128158497
12 2-128158509
8 2-128158517
6 2-128158523
11 2-128158534
309 2-128158843
4 2-128158847
cg03307958 5 2-128158852
7 2-128158859
25 2-128158884
8 2-128158892
cg05582690 13 2-128158905
3 2-128158908
2 2-128158910
cg06038358 17096 2-128176006
20 2-128176026
8 2-128176034
3 2-128176037
19 2-128176056
5 2-128176061
cg14637553 1482956 2-129659017
1078434 2-130737451
2 2-130737453
7 2-130737460
5 2-130737465
6 2-130737471
12 2-130737483
7 2-130737490
cg06288154 3 2-130737493
3 2-130737496
17 2-130737513
357274 2-131094787
6 2-131094793
12 2-131094805
9 2-131094814
cg01331772 12 2-131094826
6 2-131094832
19 2-131094851
cg03267139 1941342 2-133036193
14 2-133036207
4 2-133036211
5685074 2-138721285
17 2-138721302
3 2-138721305
cg02906939 9 2-138721314
cg15441973 2 2-138721316
cg27240209 1783683 2-140504999
2 2-140505001
15 2-140505016
cg04789315 11 2-140505027
9 2-140505036

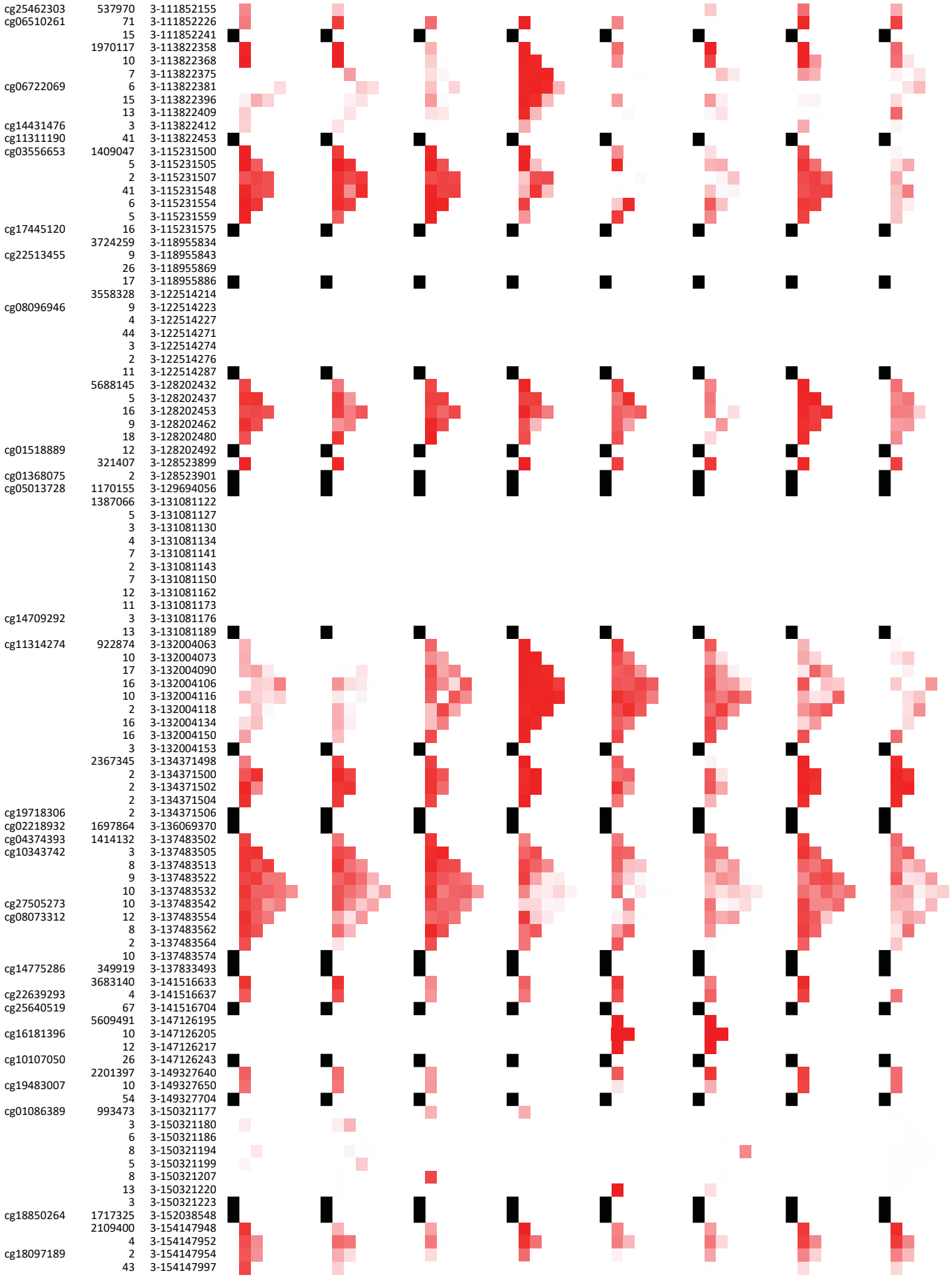

10 2-140505046
20 2-140505066
3381217 2-143886283
cg04351205 42 2-143886325
3 2-143886328
cg27365426 43 2-143886371
cg23627134 3 2-143886374
cg17717588 1166364 2-145052738
cg08516463 20 2-145052758
4592624 2-149645382
27 2-149645409
cg01035238 2567821 2-152213230
cg26852477 3025920 2-155239150
1938138 2-157177288
23 2-157177311
2 2-157177313
9 2-157177322
12 2-157177334
7 2-157177341
cg20998319 3 2-157177344
40 2-157177384
1470 2-157178854
19 2-157178873
cg16700364 15 2-157178888
4 2-157178892
9 2-157178901
30 2-157178931
6 2-157178937
18 2-157178955
2768050 2-159947005
cg10775551 4 2-159947009
10 2-159947019
cg00232831 1166836 2-161113855
15 2-161113870
13644 2-161127514
34 2-161127548
2 2-161127550
10 2-161127560
cg09250087 3 2-161127563
34 2-161127597
504 2-161128101
8 2-161128109
cg12224131 13 2-161128122
14 2-161128136
cg24868015 47 2-161128183
19 2-161128202
9 2-161128211
972830 2-162101041
4 2-162101045
17 2-162101062
11 2-162101073
cg08807892 9 2-162101082
15 2-162101097
737249 2-162838346
4 2-162838350
11 2-162838361
cg06581825 2 2-162838363
28 2-162838391
23 2-162838414
23 2-162838437
3812425 2-166650862
2 2-166650864
2 2-166650866
2 2-166650868
cg24678095 13 2-166650881
3 2-166650884
4 2-166650888
18 2-166650906
2 2-166650908
2 2-166650910
cg24217704 19 2-166650929
cg10830649 3 2-166650932
cg13169065 14 2-166650946
2 2-166650948
cg20146030 16 2-166650964
302 2-166651266
16 2-166651282
10 2-166651292
2 2-166651294
cg11009335 4 2-166651298
14 2-166651312
cg25492645 7 2-166651319
cg02764346 55 2-166651374
13 2-166651387
1499543 2-168150930
17 2-168150947
9 2-168150956
cg26275470 11 2-168150967
2400719 2-170551686
20 2-170551706
cg14817783 38 2-170551744
cg08575330 4648083 2-175199827
10 2-175199837
10 2-175199847
6 2-175199853
2 2-175199855
6 2-175199861
19 2-175199880

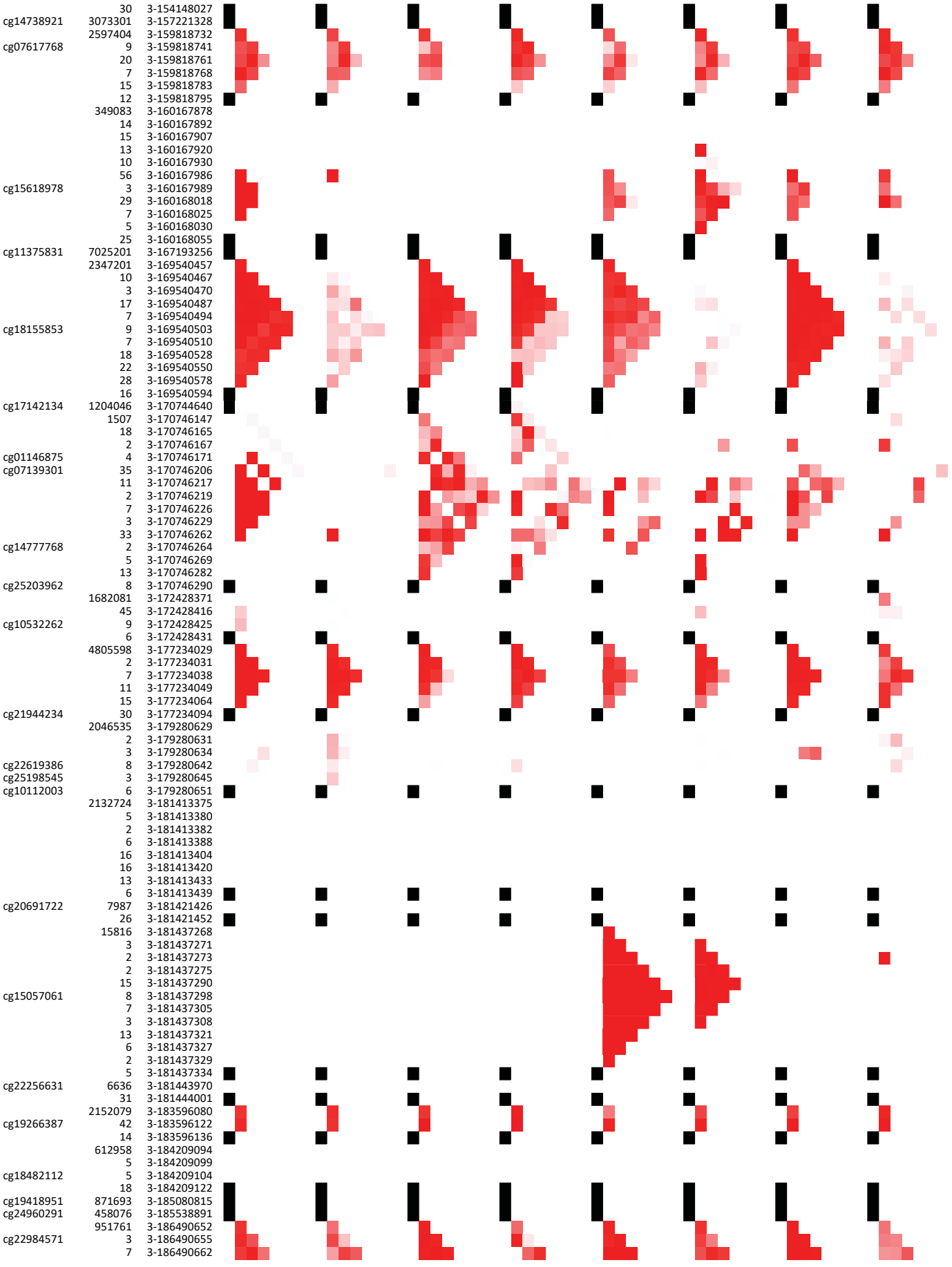

13 2-175199893
299182 2-175499075
18 2-175499093
cg13821008 19 2-175499112
cg14035238 252 2-175499364
cg27117828 12 2-175499376
1448544 2-176947920
14 2-176947934
cg27116912 5 2-176947939
6 2-176947945
4 2-176947949
10 2-176947959
8545 2-176956504
4 2-176956508
26 2-176956534
6 2-176956540
4 2-176956544
cg07802350 28 2-176956572
28 2-176956600
3 2-176956603
3 2-176956606
19 2-176956625
5 2-176956630
12 2-176956642
2 2-176956644
21 2-176956665
cg10418524 12 2-176956677
21 2-176956698
7 2-176956705
cg04739647 30756 2-176987461
cg05167251 3 2-176987464
3 2-176987467
12 2-176987479
3 2-176987482
3 2-176987485
27 2-176987512
5 2-176987517
cg21932416 10189 2-176997706
39 2-176997745
3 2-176997748
41745 2-177039493
17 2-177039510
21 2-177039531
20 2-177039551
cg12602409 16 2-177039567
3 2-177039570
5 2-177039575
10 2-177039585
2 2-177039587
6 2-177039593
2 2-177039595
2 2-177039597
30 2-177039627
2 2-177039629
94857 2-177134486
cg05493679 10 2-177134496
9 2-177134505
5 2-177134510
13 2-177134523
6 2-177134529
cg05106421 2182731 2-179317260
cg20767936 11208779 2-190526039
19 2-190526058
cg12943634 6 2-190526064
cg09978216 2 2-190526066
6932418 2-197458484
6 2-197458490
28 2-197458518
cg00510111 2 2-197458520
cg26537076 27 2-197458547
1192479 2-198651026
5 2-198651031
16 2-198651047
4 2-198651051
8 2-198651059
5 2-198651064
4 2-198651068
cg07495363 7 2-198651075
4 2-198651079
5 2-198651084
8 2-198651092
32 2-198651124
18 2-198651142
4 2-198651146
22 2-198651168
cg02833180 163895 2-198815063
7 2-198815070
cg25095814 3282945 2-202098015
cg18811621 6109172 2-208207187
588338 2-208795525
7 2-208795532
19 2-208795551
5 2-208795556
40 2-208795596
6 2-208795602
cg05391892 17 2-208795619
7 2-208795626
cg08791424 26 2-208795652

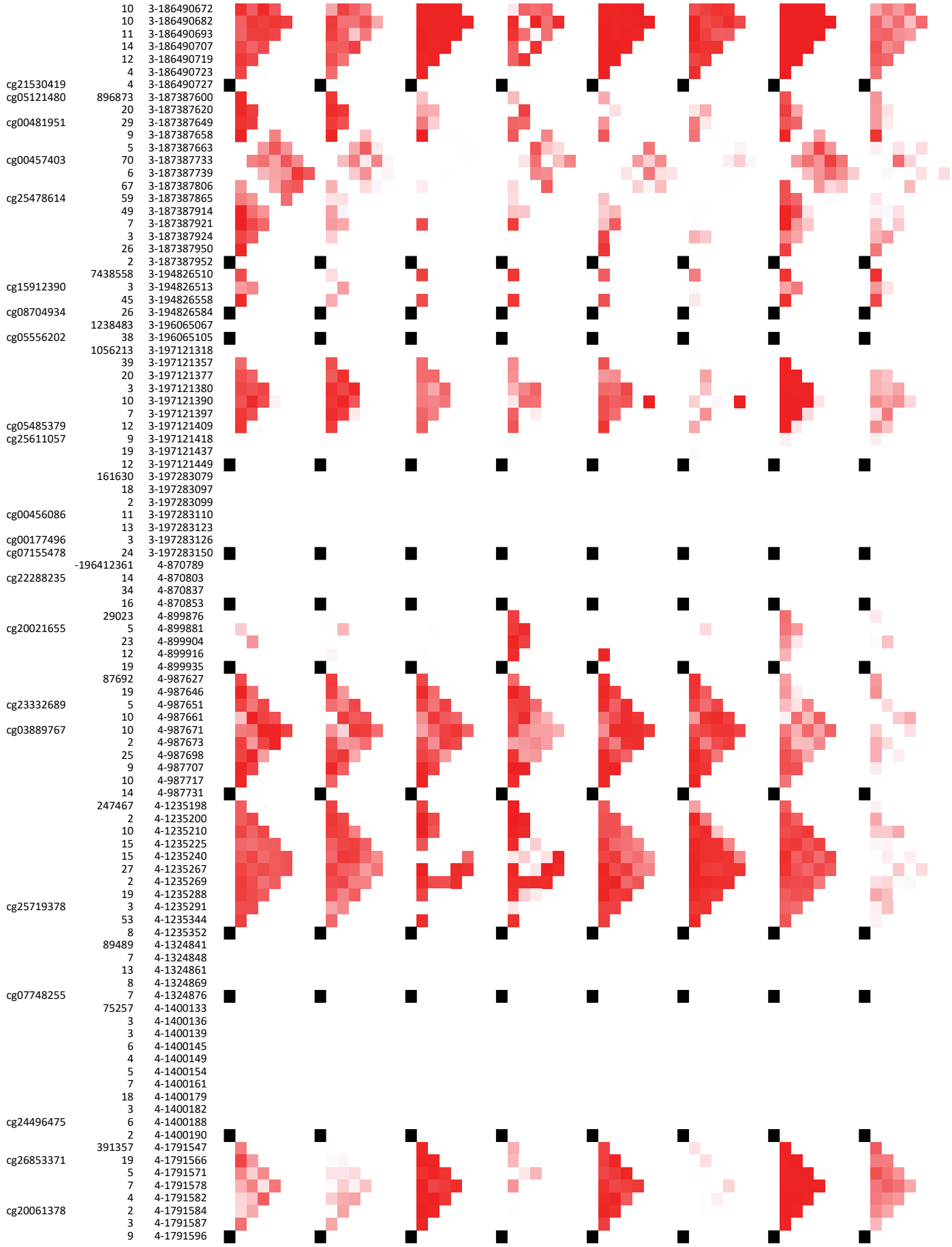

3 2-208795655
17 2-208795672
7 2-208795679
cg03383268 9974557 2-218770236
cg09548780 33 2-218770269
900877 2-219671146
40 2-219671186
6 2-219671192
cg02930667 13 2-219671205
26 2-219671231
cg26152051 323598 2-219994829
117705 2-220112534
32734 2-220145268
35 2-220145303
cg14910406 3 2-220145306
cg23985420 54003 2-220199309
cg20584905 2964474 2-223163783
8 2-223163791
3 2-223163794
cg15133719 9 2-223163803
cg09424526 5 2-223163808
7 2-223163815
8 2-223163823
2 2-223163825
17 2-223163842
8406 2-223172248
9 2-223172257
45 2-223172302
3 2-223172305
4 2-223172309
cg24419324 19 2-223172328
10 2-223172338
14 2-223172352
4 2-223172356
45 2-223172401
cg18185958 4497 2-223176898
2 2-223176900
23 2-223176923
14 2-223176937
111694 2-223288631
cg07873848 3 2-223288634
cg11300809 2 2-223288636
61 2-223288697
cg14435109 16 2-223288713
10 2-223288723
40 2-223288763
cg10098888 4377035 2-227665798
13 2-227665811
13 2-227665824
3 2-227665827
cg13572511 12 2-227665839
50 2-227665889
cg23601397 5 2-227665894
1069765 2-228735659
20 2-228735679
16 2-228735695
cg09638264 26 2-228735721
1716508 2-230452229
31 2-230452260
cg22016779 50 2-230452310
cg06096336 1537489 2-231989799
cg04042861 24 2-231989823
581276 2-232571099
cg20120070 38 2-232571137
14 2-232571151
2 2-232571153
cg07158434 3 2-232571156
642620 2-233213776
39 2-233213815
cg01698448 8 2-233213823
2315031 2-235528854
cg08436738 10 2-235528864
375606 2-235904470
3 2-235904473
7 2-235904480
3 2-235904483
cg01696784 17 2-235904500
2 2-235904502
25 2-235904527
28 2-235904555
cg24995678 31838 2-235936393
10 2-235936403
6 2-235936409
10 2-235936419
10 2-235936429
15 2-235936444
2385856 2-238322300
13 2-238322313
cg04869122 4 2-238322317
14 2-238322331
cg01409709 2 2-238322333
19 2-238322352
2 2-238322354
190007 2-238512361
34 2-238512395
cg02397720 11 2-238512406
10 2-238512416
59 2-238512475


890480 2-239402955
13 2-239402968
12 2-239402980
cg03217587 22 2-239403002
8 2-239403010
64 2-239403074
92080 2-239495154
13 2-239495167
8 2-239495175
7 2-239495182
7 2-239495189
cg11420192 18 2-239495207
17 2-239495224
2 2-239495226
56 2-239495282
475310 2-239970592
18 2-239970610
cg15656521 6 2-239970616
198468 2-240169084
10 2-240169094
26 2-240169120
17 2-240169137
14 2-240169151
4 2-240169155
cg19324997 5 2-240169160
17840 2-240187000
cg14823429 22 2-240187022
13 2-240187035
72800 2-240259835
36 2-240259871
27 2-240259898
cg19671395 16 2-240259914
14 2-240259928
2 2-240259930
11039 2-240270969
9 2-240270978
cg19770748 13 2-240270991
cg01641368 8 2-240270999
21 2-240271020
6 2-240271026
1264756 2-241535782
12 2-241535794
2 2-241535796
13 2-241535809
4 2-241535813
15 2-241535828
cg10078335 16 2-241535844
1082065 2-242617909
5 2-242617914
4 2-242617918
cg21478921 16 2-242617934
cg03301433 11 2-242617945
14 2-242617959
7 2-242617966
14 2-242617980
117309 2-242735289
cg00529371 34 2-242735323
71 2-242735394
13 2-242735407
cg03532030 89025 2-242824432
10 2-242824442
6 2-242824448
cg03598297 -237799688 3-5024760
cg02220837 12 3-5024772
22 3-5024794
cg26344982 16 3-5024810
8 3-5024818
8 3-5024826
16 3-5024842
cg18768347 6 3-5024848
5 3-5024853
3571903 3-8596756
2 3-8596758
cg14455403 13 3-8596771
1193661 3-9790432
cg15357639 10 3-9790442
34 3-9790476
5579193 3-15369669
cg17252884 11 3-15369680
cg15419820 171292 3-15540972
cg00663183 146977 3-15687949
cg23186955 732843 3-16420792
cg01336231 102254 3-16523046
3465067 3-19988113
cg05483252 18 3-19988131
44 3-19988175
6675373 3-26663548
cg18404374 2 3-26663550
2 3-26663552
4 3-26663556
2 3-26663558
4 3-26663562
2 3-26663564
4 3-26663568
18 3-26663586
4 3-26663590
cg04954680 2 3-26663592
2 3-26663594

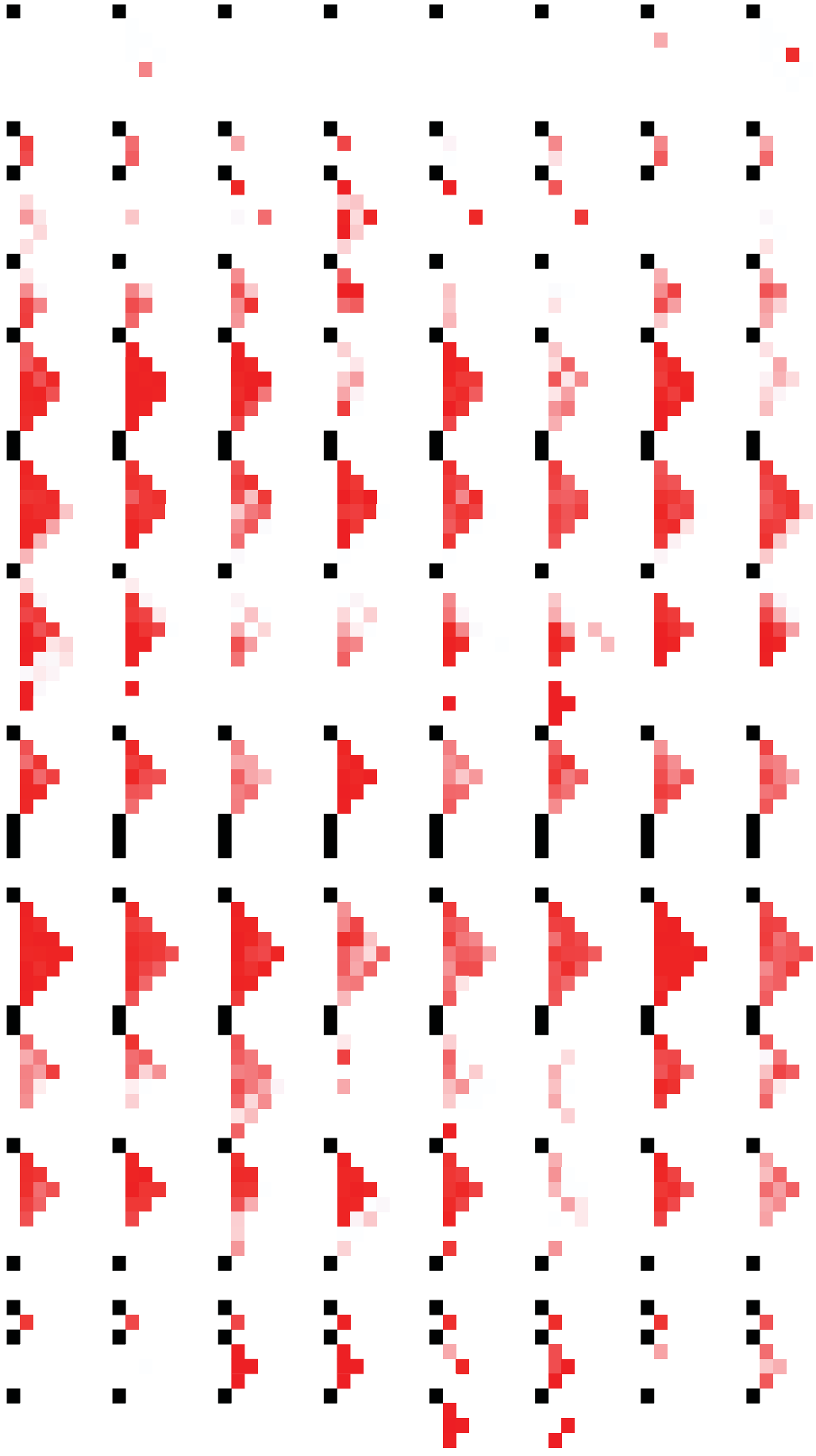


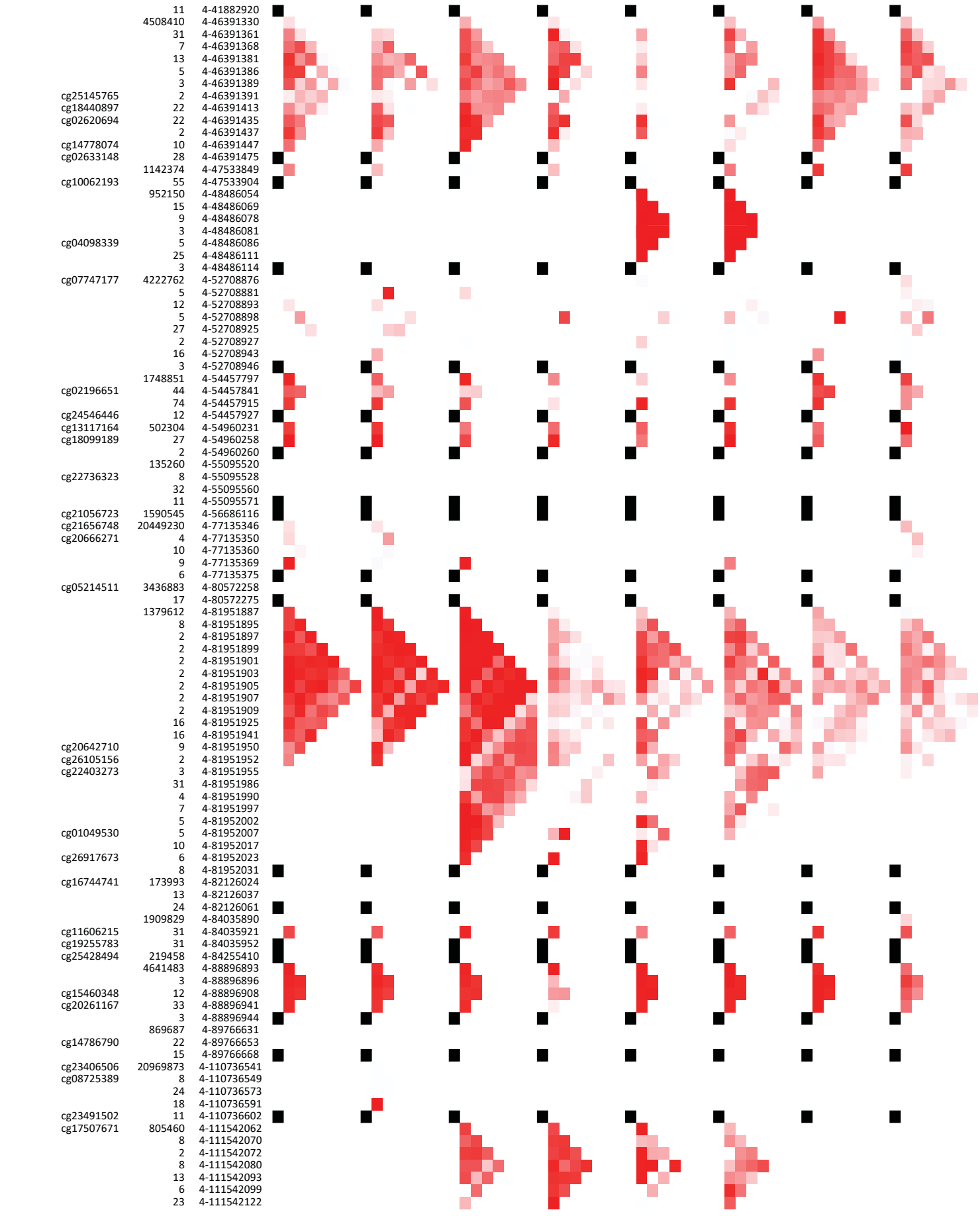

cg25462303 537970 3-111852155
cg06510261 71 3-111852226
15 3-111852241
1970117 3-113822358
10 3-113822368
7 3-113822375
cg06722069 6 3-113822381
15 3-113822396
13 3-113822409
cg14431476 3 3-113822412
cg11311190 41 3-113822453
cg03556653 1409047 3-115231500
5 3-115231505
2 3-115231507
41 3-115231548
6 3-115231554
5 3-115231559
cg17445120 16 3-115231575
3724259 3-118955834
cg22513455 9 3-118955843
26 3-118955869
17 3-118955886
3558328 3-122514214
cg08096946 9 3-122514223
4 3-122514227
44 3-122514271
3 3-122514274
2 3-122514276
11 3-122514287
5688145 3-128202432
5 3-128202437
16 3-128202453
9 3-128202462
18 3-128202480
cg01518889 12 3-128202492
321407 3-128523899
cg01368075 2 3-128523901
cg05013728 1170155 3-129694056
1387066 3-131081122
5 3-131081127
3 3-131081130
4 3-131081134
7 3-131081141
2 3-131081143
7 3-131081150
12 3-131081162
11 3-131081173
cg14709292 3 3-131081176
13 3-131081189
cg11314274 922874 3-132004063
10 3-132004073
17 3-132004090
16 3-132004106
10 3-132004116
2 3-132004118
16 3-132004134
16 3-132004150
3 3-132004153
2367345 3-134371498
2 3-134371500
2 3-134371502
2 3-134371504
cg19718306 2 3-134371506
cg02218932 1697864 3-136069370
cg04374393 1414132 3-137483502
cg10343742 3 3-137483505
8 3-137483513
9 3-137483522
10 3-137483532
cg27505273 10 3-137483542
cg08073312 12 3-137483554
8 3-137483562
2 3-137483564
10 3-137483574
cg14775286 349919 3-137833493
3683140 3-141516633
cg22639293 4 3-141516637
cg25640519 67 3-141516704
5609491 3-147126195
cg16181396 10 3-147126205
12 3-147126217
cg10107050 26 3-147126243
2201397 3-149327640
cg19483007 10 3-149327650
54 3-149327704
cg01086389 993473 3-150321177
3 3-150321180
6 3-150321186
8 3-150321194
5 3-150321199
8 3-150321207
13 3-150321220
3 3-150321223
cg18850264 1717325 3-152038548
2109400 3-154147948
4 3-154147952
cg18097189 2 3-154147954
43 3-154147997

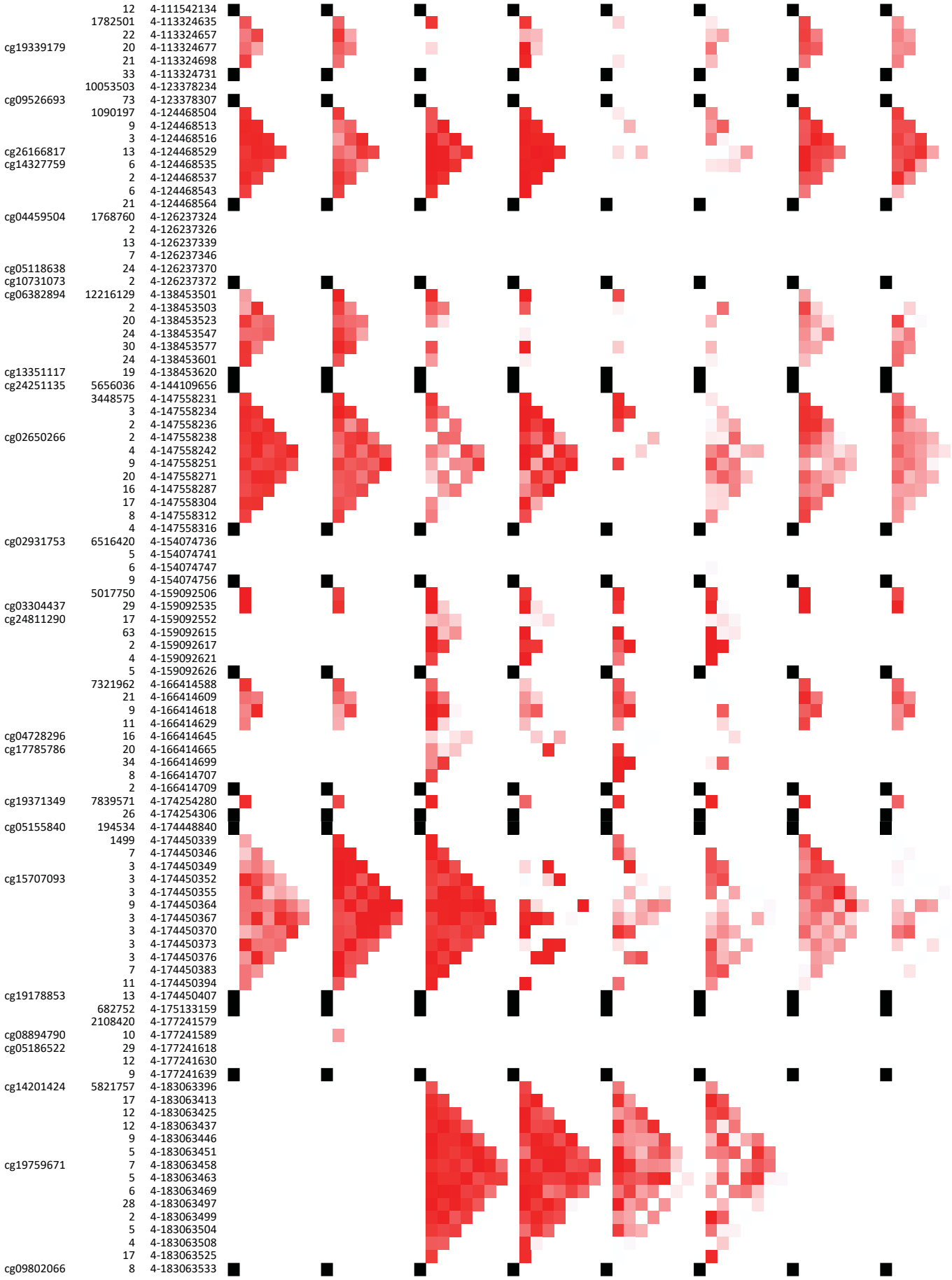


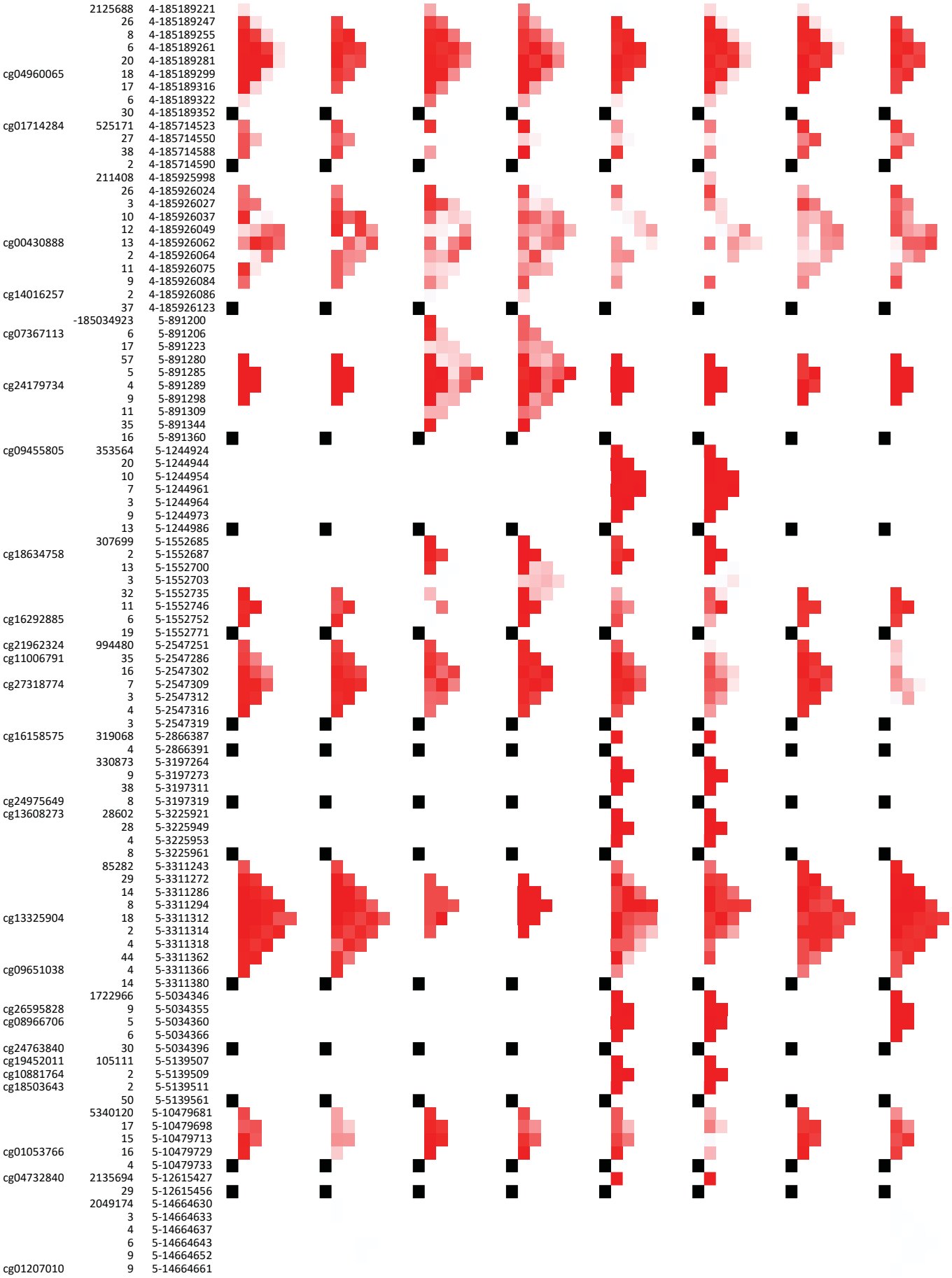

10 3-186490672
10 3-186490682
11 3-186490693
14 3-186490707
12 3-186490719
4 3-186490723
cg21530419 4 3-186490727
cg05121480 896873 3-187387600
20 3-187387620
cg00481951 29 3-187387649
9 3-187387658
5 3-187387663
cg00457403 70 3-187387733
6 3-187387739
67 3-187387806
cg25478614 59 3-187387865
49 3-187387914
7 3-187387921
3 3-187387924
26 3-187387950
2 3-187387952
7438558 3-194826510
cg15912390 3 3-194826513
45 3-194826558
cg08704934 26 3-194826584
1238483 3-196065067
cg05556202 38 3-196065105
1056213 3-197121318
39 3-197121357
20 3-197121377
3 3-197121380
10 3-197121390
7 3-197121397
cg05485379 12 3-197121409
cg25611057 9 3-197121418
19 3-197121437
12 3-197121449
161630 3-197283079
18 3-197283097
2 3-197283099
cg00456086 11 3-197283110
13 3-197283123
cg00177496 3 3-197283126
cg07155478 24 3-197283150
-196412361 4-870789
cg22288235 14 4-870803
34 4-870837
16 4-870853
29023 4-899876
cg20021655 5 4-899881
23 4-899904
12 4-899916
19 4-899935
87692 4-987627
19 4-987646
cg23332689 5 4-987651
10 4-987661
cg03889767 10 4-987671
2 4-987673
25 4-987698
9 4-987707
10 4-987717
14 4-987731
247467 4-1235198
2 4-1235200
10 4-1235210
15 4-1235225
15 4-1235240
27 4-1235267
2 4-1235269
19 4-1235288
cg25719378 3 4-1235291
53 4-1235344
8 4-1235352
89489 4-1324841
7 4-1324848
13 4-1324861
8 4-1324869
cg07748255 7 4-1324876
75257 4-1400133
3 4-1400136
3 4-1400139
6 4-1400145
4 4-1400149
5 4-1400154
7 4-1400161
18 4-1400179
3 4-1400182
cg24496475 6 4-1400188
2 4-1400190
391357 4-1791547
cg26853371 19 4-1791566
5 4-1791571
7 4-1791578
4 4-1791582
cg20061378 2 4-1791584
3 4-1791587
9 4-1791596

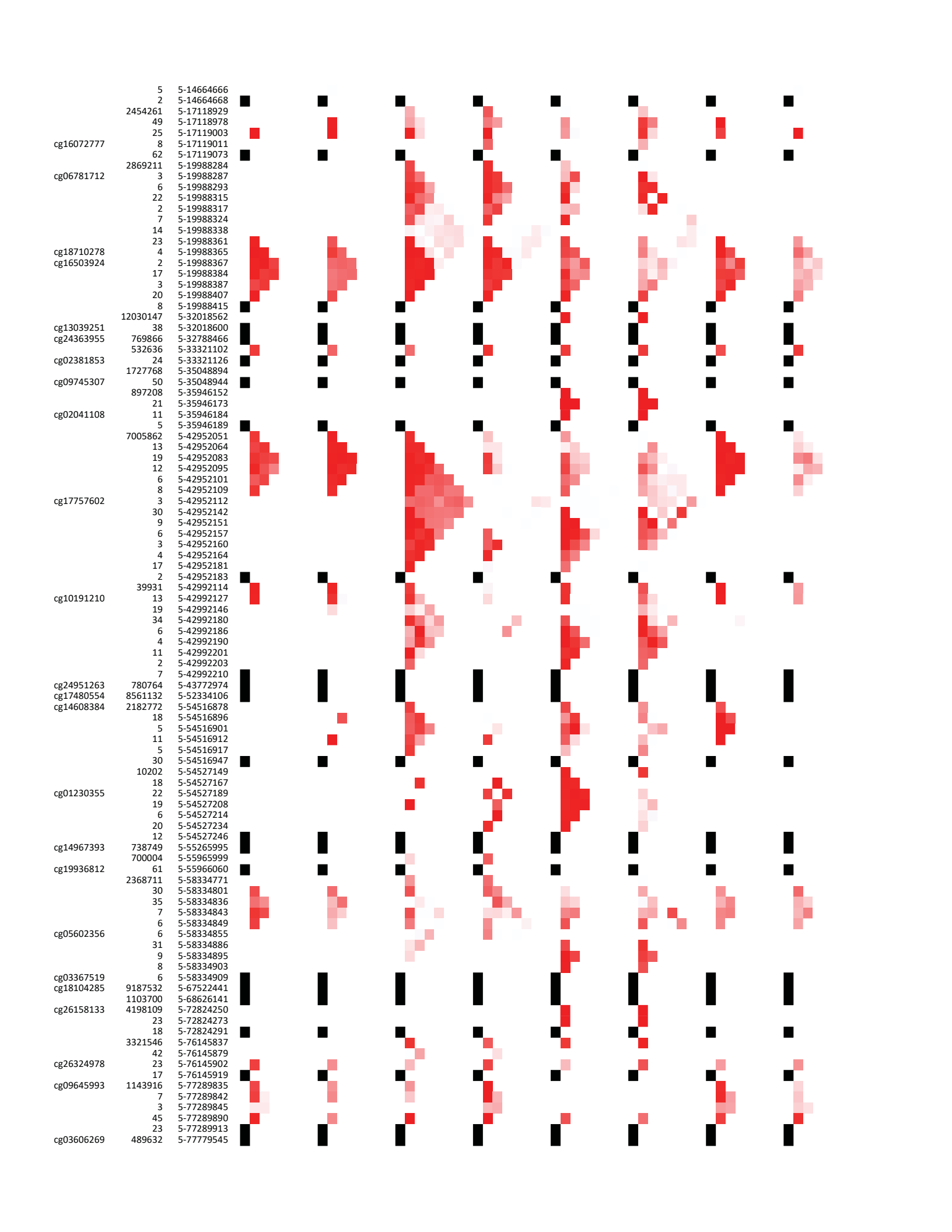
cg15007448	178610	4-1970206
cg11799608	966499	4-2936705
	5	4-2936710
cg17200337	13	4-2936723
	3	4-2936726
	3	4-2936729
cg15358937	2	4-2936731
cg11864499	8	4-2936739
	6	4-2936745
cg02547426	434490	4-3371235
	20	4-3371255
cg20495365	35	4-3371290
	159129	4-3530419
	19	4-3530438
cg19633353	62	4-3530500
	18	4-3530518
	6	4-3530524
	36	4-3530560
	216822	4-3747382
	15	4-3747397
cg00677217	3	4-3747400
	3	4-3747403
cg05554885	20	4-3747423
	1107261	4-4854684
cg17807131	5	4-4854689
	3	4-4854692
	17	4-4854709
	8	4-4854717
	3	4-4854720
	16	4-4854736
cg10239319	1218919	4-6073655
	1178913	4-7252568
	9	4-7252577
cg19923393	9	4-7252586
	21	4-7252607
	6	4-7252613
	6	4-7252619
	5	4-7252624
	27	4-7252651
	977323	4-8229974
	20	4-8229994
	15	4-8230009
	21	4-8230030
	17	4-8230047
cg20277282	5	4-8230052
	4	4-8230056
	26	4-8230082
	2	4-8230084
	7	4-8230091
	9	4-8230100
	166020	4-8396120
	7	4-8396127
cg18631798	35	4-8396162
	2	4-8396164
	11	4-8396175
	8	4-8396183
cg13534095	4529818	4-12926001
cg01612366	1187463	4-14113464
cg13929970	1826397	4-15939861
cg09565002	27	4-15939888
	26	4-15939914
cg10630155	145751	4-16085665
	2	4-16085667
	7	4-16085674
	11	4-16085685
cg04203238	16	4-16085701
cg26260038	14	4-16085715
	5	4-16085720
	13	4-16085733
cg03271761	5613475	4-21699208
	3957584	4-25656792
	11	4-25656803
	22	4-25656825
cg09157302	4	4-25656829
	19	4-25656848
cg04101194	16	4-25656864
	41	4-25656905
	21	4-25656926
	373688	4-26030614
	21	4-26030635
	16	4-26030651
	18	4-26030669
cg20250126	7	4-26030676
cg18664369	14	4-26030690
	27	4-26030717
	23	4-26030740
	11931444	4-37962184
	3	4-37962187
cg01043831	17	4-37962204
cg05205842	710925	4-38673129
	14	4-38673143
	1384063	4-40057206
cg01492656	34	4-40057240
	48	4-40057288
	15	4-40057303
cg02881929	1825564	4-41882867
	28	4-41882895
	14	4-41882909



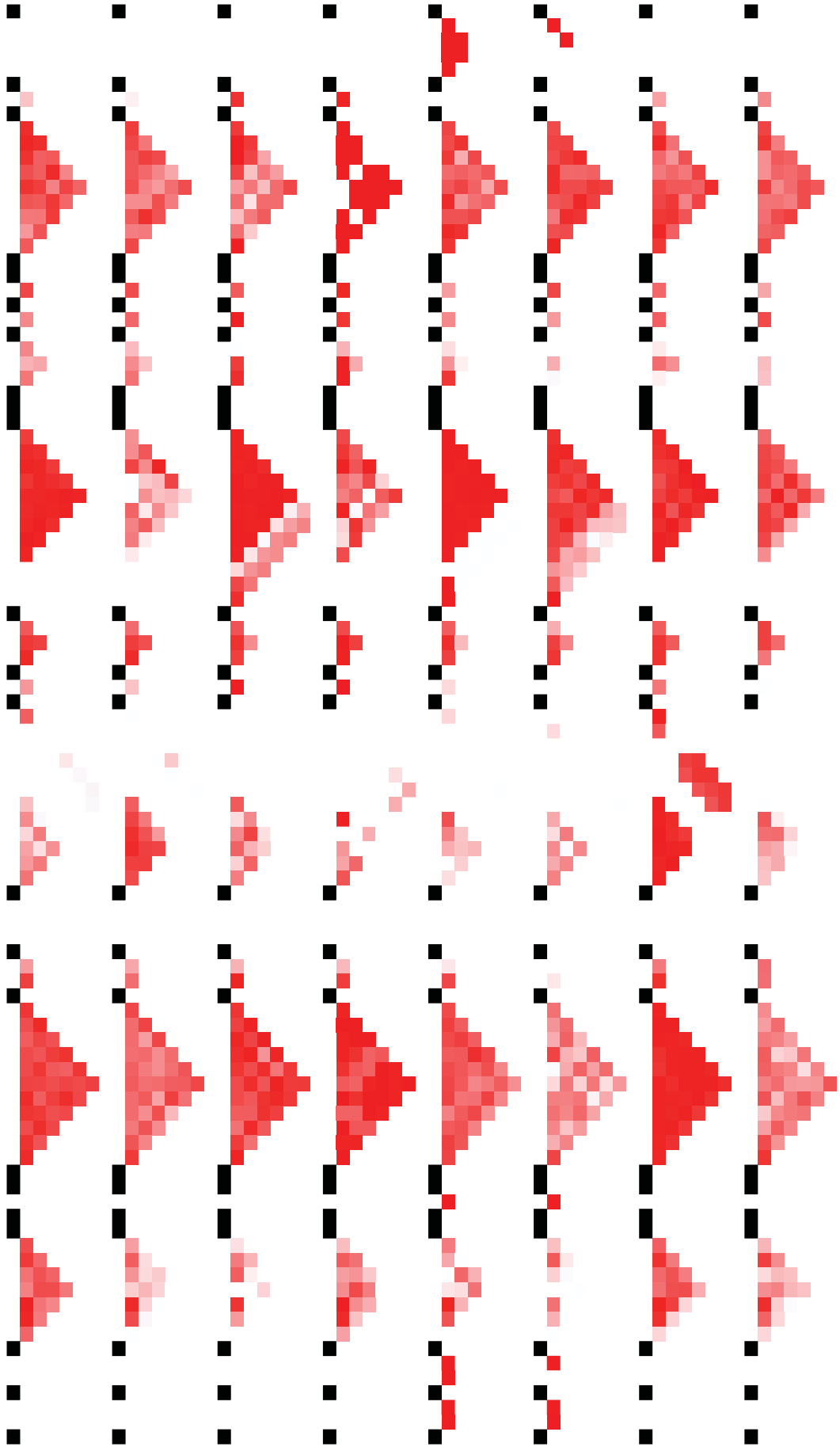



12 4-111542134
1782501 4-113324635
22 4-113324657
cg19339179 20 4-113324677
21 4-113324698
33 4-113324731
10053503 4-123378234
cg09526693 73 4-123378307
1090197 4-124468504
9 4-124468513
3 4-124468516
cg26166817 13 4-124468529
cg14327759 6 4-124468535
2 4-124468537
6 4-124468543
21 4-124468564
cg04459504 1768760 4-126237324
2 4-126237326
13 4-126237339
7 4-126237346
cg05118638 24 4-126237370
cg10731073 2 4-126237372
cg06382894 12216129 4-138453501
2 4-138453503
20 4-138453523
24 4-138453547
30 4-138453577
24 4-138453601
cg13351117 19 4-138453620
cg24251135 5656036 4-144109656
3448575 4-147558231
3 4-147558234
2 4-147558236
cg02650266 2 4-147558238
4 4-147558242
9 4-147558251
20 4-147558271
16 4-147558287
17 4-147558304
8 4-147558312
4 4-147558316
cg02931753 6516420 4-154074736
5 4-154074741
6 4-154074747
9 4-154074756
5017750 4-159092506
cg03304437 29 4-159092535
cg24811290 17 4-159092552
63 4-159092615
2 4-159092617
4 4-159092621
5 4-159092626
7321962 4-166414588
21 4-166414609
9 4-166414618
11 4-166414629
cg04728296 16 4-166414645
cg17785786 20 4-166414665
34 4-166414699
8 4-166414707
2 4-166414709
cg19371349 7839571 4-174254280
26 4-174254306
cg05155840 194534 4-174448840
1499 4-174450339
7 4-174450346
3 4-174450349
cg15707093 3 4-174450352
3 4-174450355
9 4-174450364
3 4-174450367
3 4-174450370
3 4-174450373
3 4-174450376
7 4-174450383
11 4-174450394
cg19178853 13 4-174450407
682752 4-175133159
2108420 4-177241579
cg08894790 10 4-177241589
cg05186522 29 4-177241618
12 4-177241630
9 4-177241639
cg14201424 5821757 4-183063396
17 4-183063413
12 4-183063425
12 4-183063437
9 4-183063446
5 4-183063451
cg19759671 7 4-183063458
5 4-183063463
6 4-183063469
28 4-183063497
2 4-183063499
5 4-183063504
4 4-183063508
17 4-183063525
cg09802066 8 4-183063533

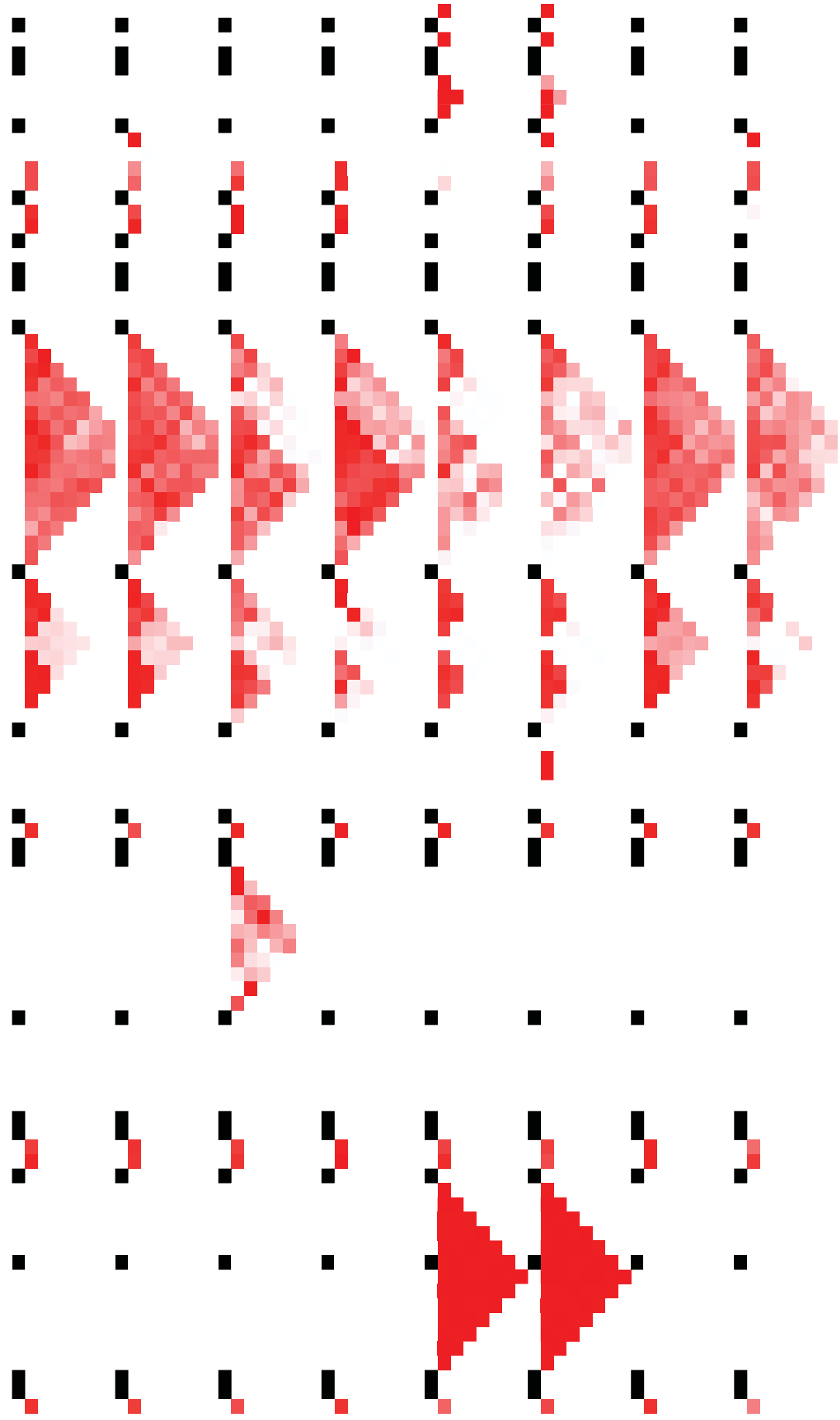

2125688 4-185189221
26 4-185189247
8 4-185189255
6 4-185189261
20 4-185189281
cg04960065 18 4-185189299
17 4-185189316
6 4-185189322
30 4-185189352
cg01714284 525171 4-185714523
27 4-185714550
38 4-185714588
2 4-185714590
211408 4-185925998
26 4-185926024
3 4-185926027
10 4-185926037
12 4-185926049
cg00430888 13 4-185926062
2 4-185926064
11 4-185926075
9 4-185926084
cg14016257 2 4-185926086
37 4-185926123
-185034923 5-891200
cg07367113 6 5-891206
17 5-891223
57 5-891280
5 5-891285
cg24179734 4 5-891289
9 5-891298
11 5-891309
35 5-891344
16 5-891360
cg09455805 353564 5-1244924
20 5-1244944
10 5-1244954
7 5-1244961
3 5-1244964
9 5-1244973
13 5-1244986
307699 5-1552685
cg18634758 2 5-1552687
13 5-1552700
3 5-1552703
32 5-1552735
11 5-1552746
cg16292885 6 5-1552752
19 5-1552771
cg21962324 994480 5-2547251
cg11006791 35 5-2547286
16 5-2547302
cg27318774 7 5-2547309
3 5-2547312
4 5-2547316
3 5-2547319
cg16158575 319068 5-2866387
4 5-2866391
330873 5-3197264
9 5-3197273
38 5-3197311
cg24975649 8 5-3197319
cg13608273 28602 5-3225921
28 5-3225949
4 5-3225953
8 5-3225961
85282 5-3311243
29 5-3311272
14 5-3311286
8 5-3311294
cg13325904 18 5-3311312
2 5-3311314
4 5-3311318
44 5-3311362
cg09651038 4 5-3311366
14 5-3311380
1722966 5-5034346
cg26595828 9 5-5034355
cg08966706 5 5-5034360
6 5-5034366
cg24763840 30 5-5034396
cg19452011 105111 5-5139507
cg10881764 2 5-5139509
cg18503643 2 5-5139511
50 5-5139561
5340120 5-10479681
17 5-10479698
15 5-10479713
cg01053766 16 5-10479729
4 5-10479733
cg04732840 2135694 5-12615427
29 5-12615456
2049174 5-14664630
3 5-14664633
4 5-14664637
6 5-14664643
9 5-14664652
cg01207010 9 5-14664661

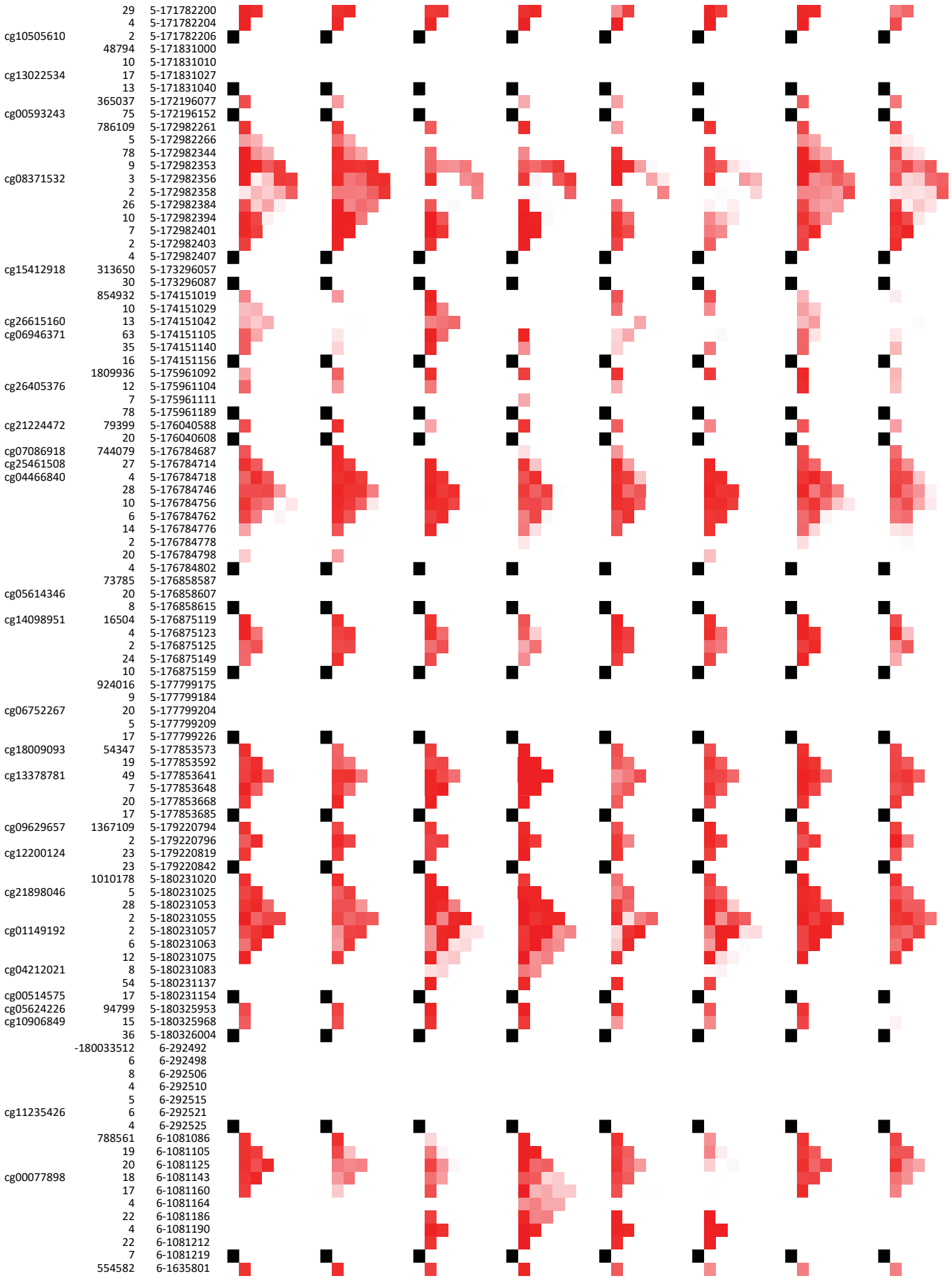


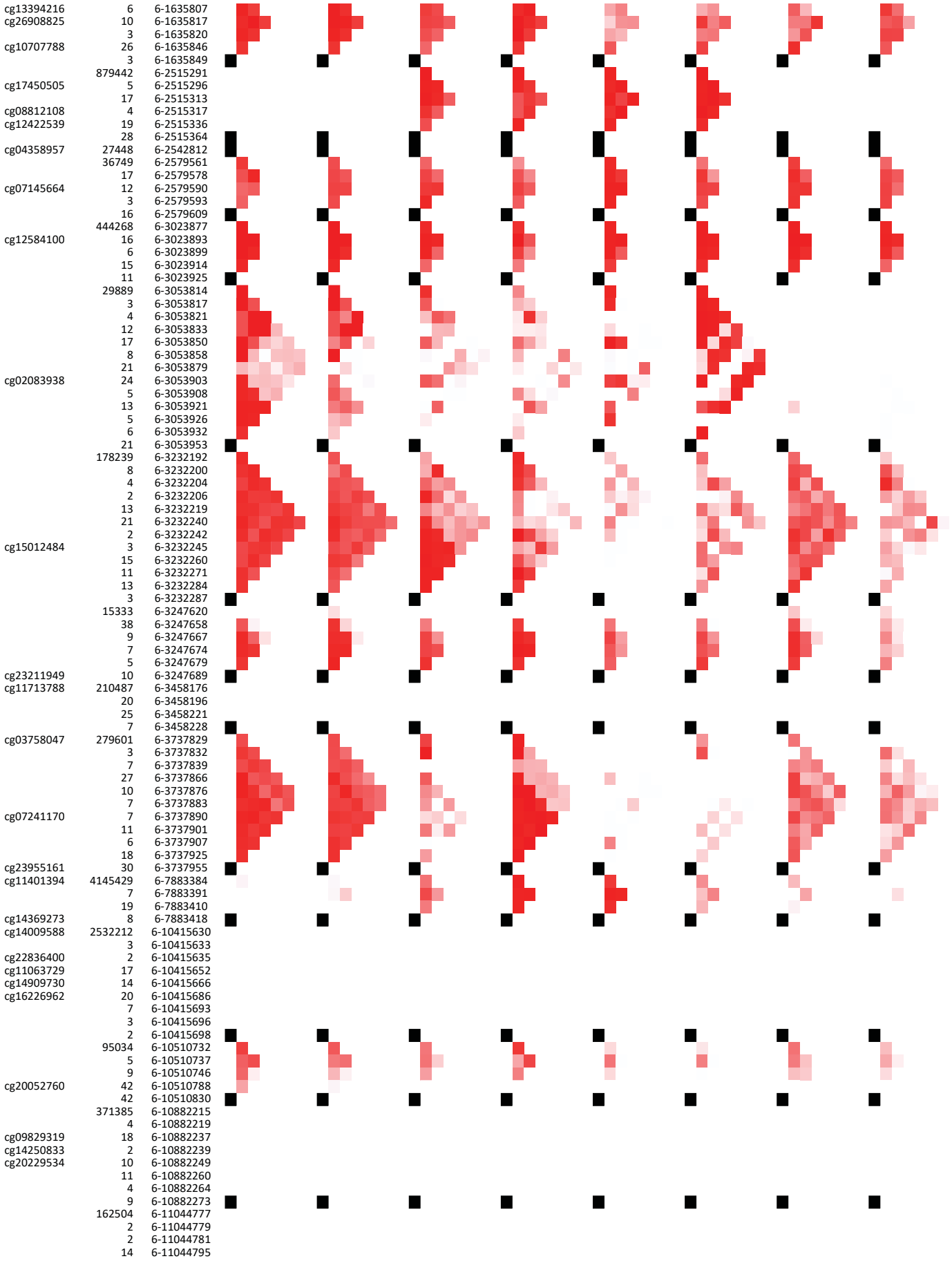
cg01330456	216505	5-77996050
cg01277506	2694154	5-80690204
	8	5-80690212
cg17741014	7	5-80690219
cg21942082	5	5-80690224
	2	5-80690226
	886135	5-81576361
cg16059665	9	5-81576370
	11332983	5-92909353
	15	5-92909368
	2	5-92909370
	39	5-92909409
	15	5-92909424
cg04541368	4	5-92909428
cg15143788	5	5-92909433
	15	5-92909448
	19	5-92909467
	6	5-92909473
cg26783481	216421	5-93125894
cg22689909	2033470	5-95159364
	25	5-95159389
	117177	5-95276566
cg19023977	11	5-95276577
	7558211	5-102834788
	37	5-102834825
	20	5-102834845
cg06612355	12	5-102834857
cg08978092	5188570	5-108023427
cg15089387	2383233	5-110406660
	1666809	5-112073469
	9	5-112073478
	10	5-112073488
cg20311501	13	5-112073501
	3	5-112073504
	8	5-112073512
	3	5-112073515
	18	5-112073533
cg23938220	4	5-112073537
cg02511809	6	5-112073543
cg21634602	26	5-112073569
	37	5-112073606
cg12534150	6	5-112073612
	11605552	5-123679164
	33	5-123679197
cg15187665	5	5-123679202
	15	5-123679217
cg26107055	2016469	5-125695686
cg25426716	12	5-125695698
	234794	5-125930492
cg05689600	3	5-125930495
	60	5-125930555
	392	5-125930947
	7	5-125930954
	4	5-125930958
	23	5-125930981
cg19551232	19	5-125931000
	6	5-125931006
	6	5-125931012
	5	5-125931017
	18	5-125931035
	12	5-125931047
	6217807	5-132148854
	5	5-132148859
	2	5-132148861
cg18840461	3	5-132148864
	558343	5-132707207
cg09024962	92	5-132707299
	25	5-132707324
cg07143623	2605928	5-135313252
	5	5-135313257
	8	5-135313265
	3	5-135313268
	15	5-135313283
	10	5-135313293
	3	5-135313296
	7	5-135313303
cg17472800	7	5-135313310
	3	5-135313313
	36	5-135313349
	23	5-135313372
cg25388800	2676870	5-137990242
cg04232128	870998	5-138861240
	16	5-138861256
cg08234504	152060	5-139013316
	1406434	5-140419750
	5	5-140419755
	11	5-140419766
	31	5-140419797
cg23500537	21	5-140419818
	2	5-140419820
	7	5-140419827
	27	5-140419854
cg18131851	152027	5-140571881
cg27124774	6	5-140571887
	18	5-140571905
	16503	5-140588408
cg17007628	15	5-140588423
	8	5-140588431



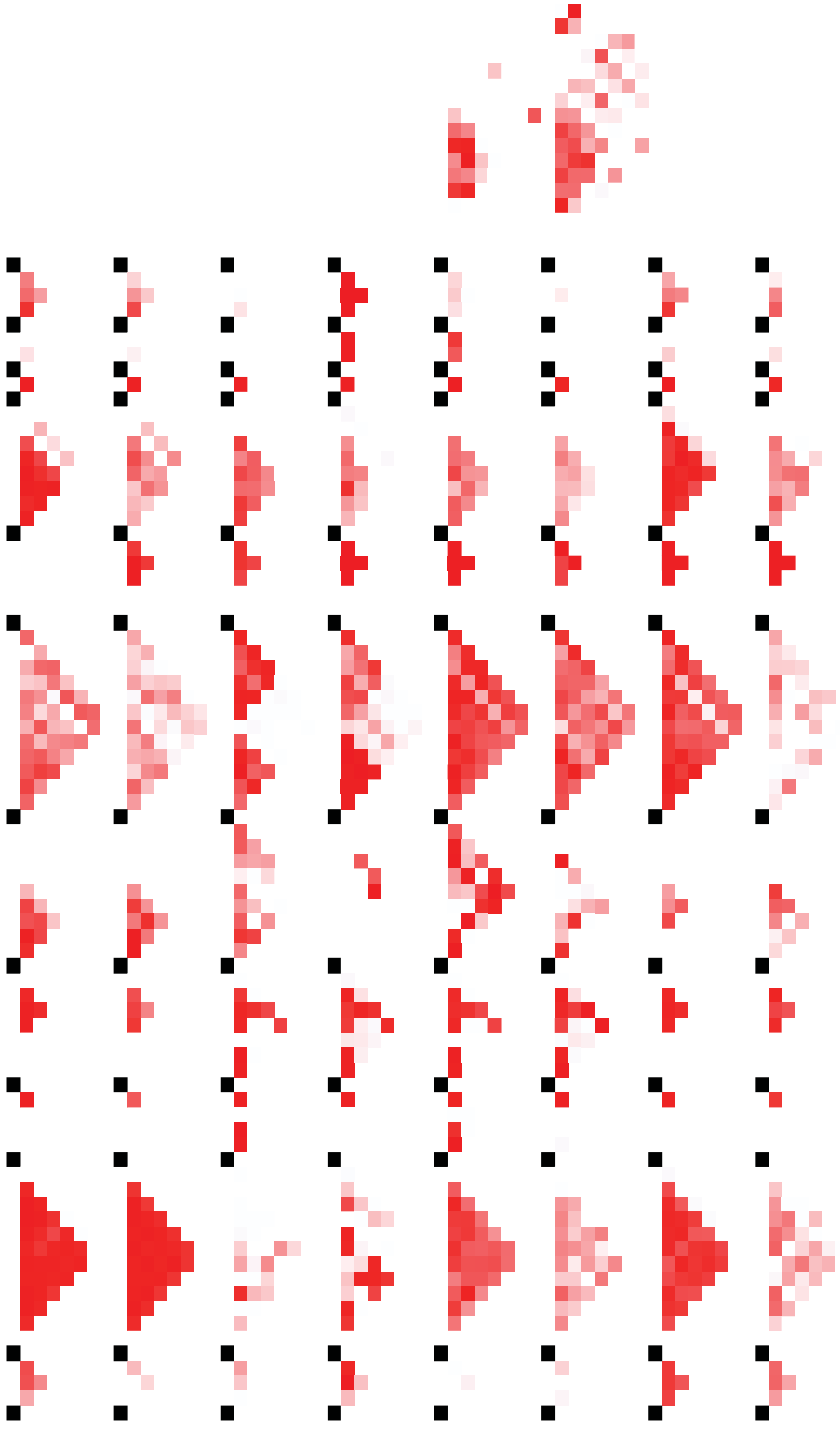
cg10553103	31135	5-140619566
cg25010500	19	5-140619585
	463272	5-141082857
cg00550234	2	5-141082859
cg08971595	176396	5-141259255
cg06627334	80492	5-141339747
cg02453726	18	5-141339765
	5	5-141339770
cg02106466	6	5-141339776
	382326	5-141722102
	11	5-141722113
cg02084814	60	5-141722173
	26	5-141722199
	19	5-141722218
	148576	5-141870794
cg04470060	15	5-141870809
	44	5-141870853
	666258	5-142537111
	18	5-142537129
cg07598021	6191070	5-148728199
cg22928002	201584	5-148929783
	51	5-148929834
	2	5-148929836
	616166	5-149546002
	25	5-149546027
	6	5-149546033
	2	5-149546035
	7	5-149546042
	22	5-149546064
cg26531174	8	5-149546072
cg25132276	14	5-149546086
	11	5-149546097
	5	5-149546102
	2	5-149546104
	6	5-149546110
	7	5-149546117
	9	5-149546126
	2	5-149546128
	7	5-149546135
	2	5-149546137
cg26129545	246192	5-149792329
	5	5-149792334
cg01601628	13	5-149792347
cg14484145	23	5-149792370
cg24548564	19	5-149792389
	356	5-149792745
	8	5-149792753
	11	5-149792764
cg19966212	18	5-149792782
	3	5-149792785
cg11619961	54	5-149792839
	4070504	5-153863343
	11	5-153863354
	5	5-153863359
	6	5-153863365
	23	5-153863388
	21	5-153863409
cg23462242	2832775	5-156696184
cg08224785	4	5-156696188
cg11287077	1894523	5-158590711
	1304090	5-159894801
	12	5-159894813
	11	5-159894824
	2	5-159894826
	8	5-159894834
cg15609272	33	5-159894867
	19	5-159894886
	24	5-159894910
	16	5-159894926
cg21546155	10	5-159894936
	2	5-159894938
	2992374	5-162887312
cg25028503	15	5-162887327
cg22499086	14	5-162887341
cg15122828	20	5-162887361
cg09847085	6	5-162887367
cg17542225	12	5-162887379
	6	5-162887385
cg24534739	1160468	5-164047853
cg19984170	3484606	5-167532459
	36	5-167532495
	10	5-167532505
	3205528	5-170738033
	2	5-170738035
	10	5-170738045
	6	5-170738051
cg04178316	7	5-170738058
	46	5-170738104
	1706	5-170739810
	5	5-170739815
	4	5-170739819
	19	5-170739838
cg17338430	14	5-170739852
	3	5-170739855
	6	5-170739861
	20	5-170739881
cg25650256	798675	5-171538556
	243615	5-171782171

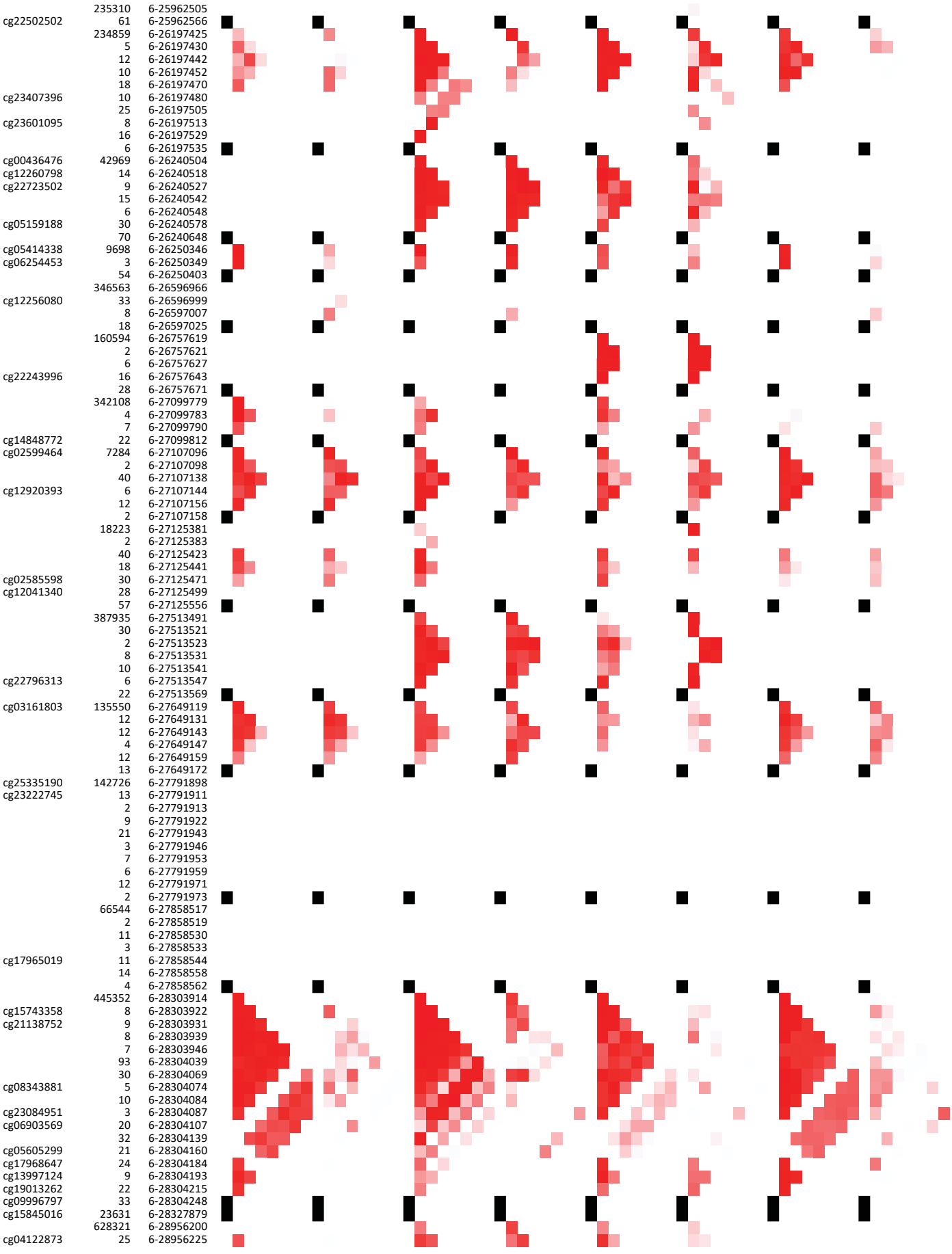


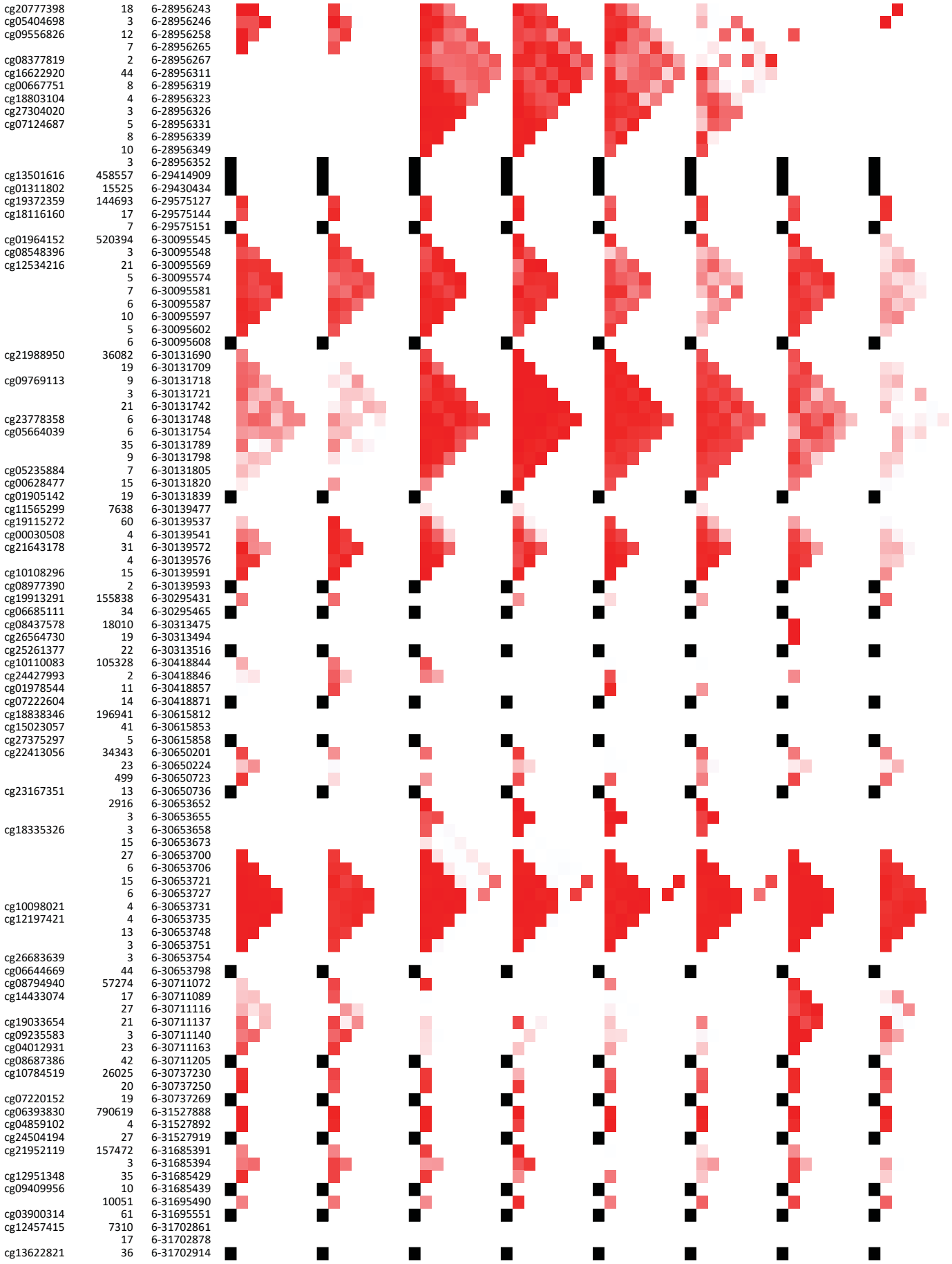

29 5-171782200
4 5-171782204
cg10505610 2 5-171782206
48794 5-171831000
10 5-171831010
cg13022534 17 5-171831027
13 5-171831040
365037 5-172196077
cg00593243 75 5-172196152
786109 5-172982261
5 5-172982266
78 5-172982344
9 5-172982353
cg08371532 3 5-172982356
2 5-172982358
26 5-172982384
10 5-172982394
7 5-172982401
2 5-172982403
4 5-172982407
cg15412918 313650 5-173296057
30 5-173296087
854932 5-174151019
10 5-174151029
cg26615160 13 5-174151042
cg06946371 63 5-174151105
35 5-174151140
16 5-174151156
1809936 5-175961092
cg26405376 12 5-175961104
7 5-175961111
78 5-175961189
cg21224472 79399 5-176040588
20 5-176040608
cg07086918 744079 5-176784687
cg25461508 27 5-176784714
cg04466840 4 5-176784718
28 5-176784746
10 5-176784756
6 5-176784762
14 5-176784776
2 5-176784778
20 5-176784798
4 5-176784802
73785 5-176858587
cg05614346 20 5-176858607
8 5-176858615
cg14098951 16504 5-176875119
4 5-176875123
2 5-176875125
24 5-176875149
10 5-176875159
924016 5-177799175
9 5-177799184
cg06752267 20 5-177799204
5 5-177799209
17 5-177799226
cg18009093 54347 5-177853573
19 5-177853592
cg13378781 49 5-177853641
7 5-177853648
20 5-177853668
17 5-177853685
cg09629657 1367109 5-179220794
2 5-179220796
cg12200124 23 5-179220819
23 5-179220842
1010178 5-180231020
cg21898046 5 5-180231025
28 5-180231053
2 5-180231055
cg01149192 2 5-180231057
6 5-180231063
12 5-180231075
cg04212021 8 5-180231083
54 5-180231137
cg00514575 17 5-180231154
cg05624226 94799 5-180325953
cg10906849 15 5-180325968
36 5-180326004
-180033512 6-292492
6 6-292498
8 6-292506
4 6-292510
5 6-292515
cg11235426 6 6-292521
4 6-292525
788561 6-1081086
19 6-1081105
20 6-1081125
cg00077898 18 6-1081143
17 6-1081160
4 6-1081164
22 6-1081186
4 6-1081190
22 6-1081212
7 6-1081219
554582 6-1635801


cg13394216 6 6-1635807
cg26908825 10 6-1635817
3 6-1635820
cg10707788 26 6-1635846
3 6-1635849
879442 6-2515291
cg17450505 5 6-2515296
17 6-2515313
cg08812108 4 6-2515317
cg12422539 19 6-2515336
28 6-2515364
cg04358957 27448 6-2542812
36749 6-2579561
17 6-2579578
cg07145664 12 6-2579590
3 6-2579593
16 6-2579609
444268 6-3023877
cg12584100 16 6-3023893
6 6-3023899
15 6-3023914
11 6-3023925
29889 6-3053814
3 6-3053817
4 6-3053821
12 6-3053833
17 6-3053850
8 6-3053858
21 6-3053879
cg02083938 24 6-3053903
5 6-3053908
13 6-3053921
5 6-3053926
6 6-3053932
21 6-3053953
178239 6-3232192
8 6-3232200
4 6-3232204
2 6-3232206
13 6-3232219
21 6-3232240
2 6-3232242
cg15012484 3 6-3232245
15 6-3232260
11 6-3232271
13 6-3232284
3 6-3232287
15333 6-3247620
38 6-3247658
9 6-3247667
7 6-3247674
5 6-3247679
cg23211949 10 6-3247689
cg11713788 210487 6-3458176
20 6-3458196
25 6-3458221
7 6-3458228
cg03758047 279601 6-3737829
3 6-3737832
7 6-3737839
27 6-3737866
10 6-3737876
7 6-3737883
cg07241170 7 6-3737890
11 6-3737901
6 6-3737907
18 6-3737925
cg23955161 30 6-3737955
cg11401394 4145429 6-7883384
7 6-7883391
19 6-7883410
cg14369273 8 6-7883418
cg14009588 2532212 6-10415630
3 6-10415633
cg22836400 2 6-10415635
cg11063729 17 6-10415652
cg14909730 14 6-10415666
cg16226962 20 6-10415686
7 6-10415693
3 6-10415696
2 6-10415698
95034 6-10510732
5 6-10510737
9 6-10510746
cg20052760 42 6-10510788
42 6-10510830
371385 6-10882215
4 6-10882219
cg09829319 18 6-10882237
cg14250833 2 6-10882239
cg20229534 10 6-10882249
11 6-10882260
4 6-10882264
9 6-10882273
162504 6-11044777
2 6-11044779
2 6-11044781
14 6-11044795

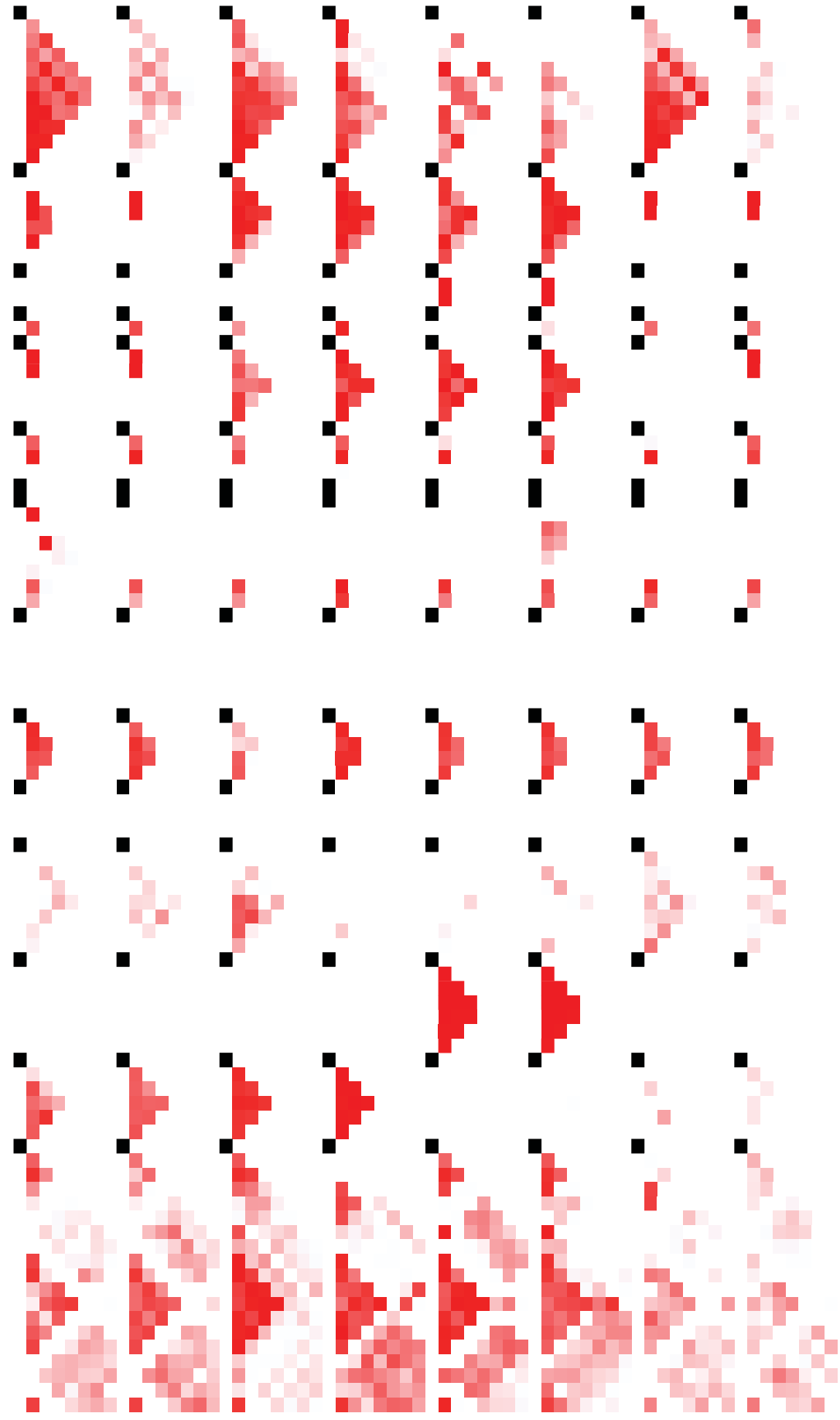
	4	6-11044799
	6	6-11044805
	6	6-11044811
	2	6-11044813
	4	6-11044817
	2	6-11044819
	3	6-11044822
	10	6-11044832
	4	6-11044836
	24	6-11044860
	3	6-11044863
	3	6-11044866
	6	6-11044872
	2	6-11044874
cg16867657	2	6-11044876
	3	6-11044879
cg24724428	8	6-11044887
cg21572722	6	6-11044893
	22	6-11044915
	12	6-11044927
	7	6-11044934
	4236282	6-15281216
cg07532782	6	6-15281222
	38	6-15281260
	5	6-15281265
cg25971741	61850	6-15343115
	35	6-15343150
	25	6-15343175
	1386430	6-16729605
cg24067911	4	6-16729609
	1393059	6-18122668
	6	6-18122674
	18	6-18122692
	6	6-18122698
	14	6-18122712
	2	6-18122714
cg22736354	4	6-18122718
	3	6-18122721
	9	6-18122730
	3703783	6-21826513
cg11161497	11	6-21826524
	22	6-21826546
	7	6-21826553
	42	6-21826595
	3	6-21826598
	2531577	6-24358175
	9	6-24358184
	16	6-24358200
	5	6-24358205
	21	6-24358226
	7	6-24358233
cg04515001	2	6-24358235
	25	6-24358260
	37	6-24358297
cg05347898	6	6-24358303
cg16306115	2	6-24358305
cg07791578	2	6-24358307
cg27252395	19	6-24358326
	552590	6-24910916
	14	6-24910930
	18	6-24910948
	13	6-24910961
	30	6-24910991
	2	6-24910993
cg15289427	7	6-24911000
	49	6-24911049
	3	6-24911052
	3	6-24911055
	130967	6-25042022
	44	6-25042066
	11	6-25042077
cg14083015	12	6-25042089
	6	6-25042095
	42	6-25042137
	2	6-25042139
	28	6-25042167
cg00579036	96383	6-25138550
	26	6-25138576
	21	6-25138597
	29	6-25138626
cg12992112	5	6-25138631
cg26718511	513899	6-25652530
	31	6-25652561
	38	6-25652599
cg06493994	2	6-25652601
	3	6-25652604
	14	6-25652618
	3	6-25652621
	22	6-25652643
	7	6-25652650
	11	6-25652661
	8	6-25652669
	3	6-25652672
cg01230796	25	6-25652697
cg03691170	74409	6-25727106
	7	6-25727113
	27	6-25727140
	55	6-25727195

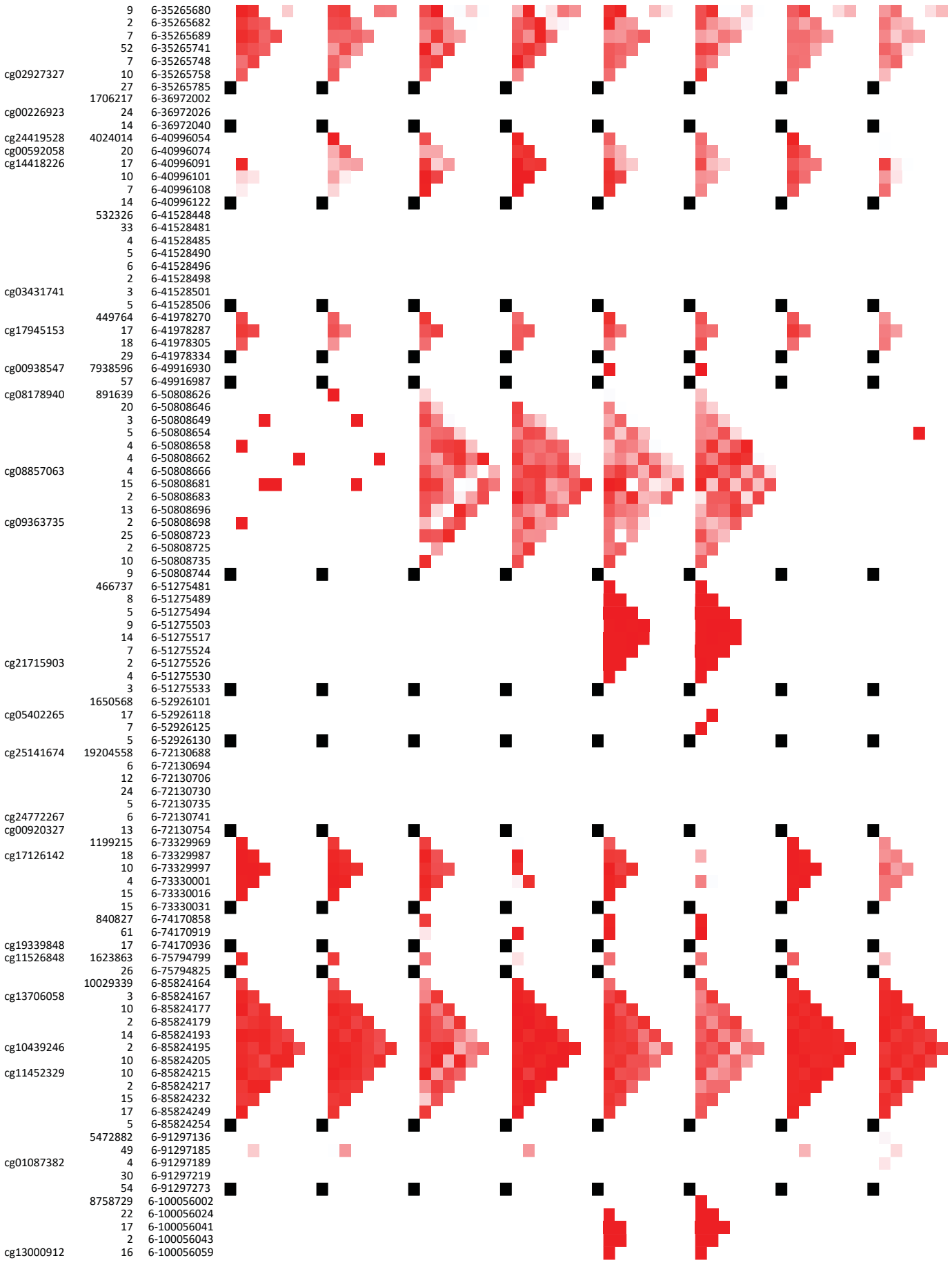


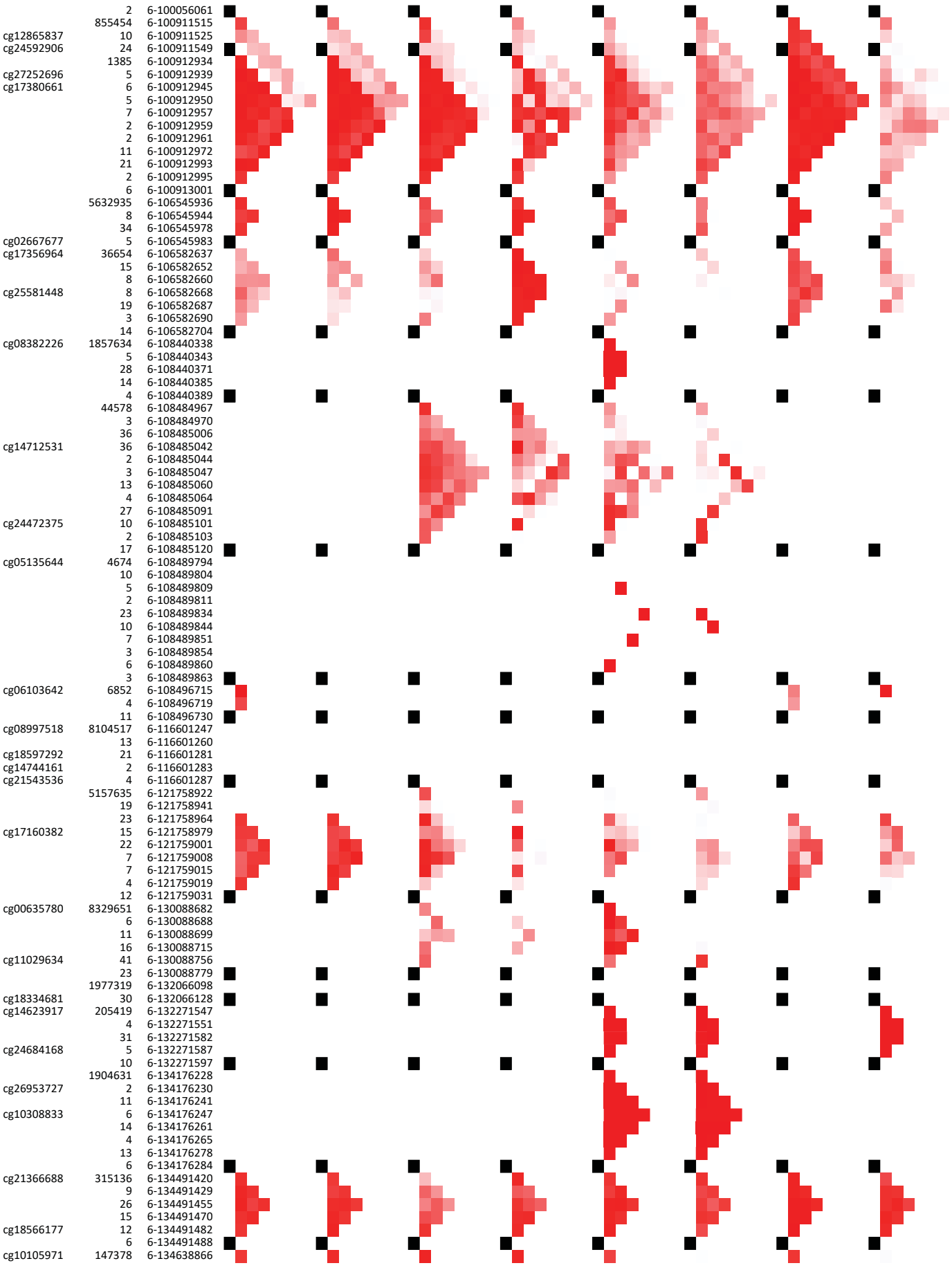

235310 6-25962505
cg22502502 61 6-25962566
234859 6-26197425
5 6-26197430
12 6-26197442
10 6-26197452
18 6-26197470
cg23407396 10 6-26197480
25 6-26197505
cg23601095 8 6-26197513
16 6-26197529
6 6-26197535
cg00436476 42969 6-26240504
cg12260798 14 6-26240518
cg22723502 9 6-26240527
15 6-26240542
6 6-26240548
cg05159188 30 6-26240578
70 6-26240648
cg05414338 9698 6-26250346
cg06254453 3 6-26250349
54 6-26250403
346563 6-26596966
cg12256080 33 6-26596999
8 6-26597007
18 6-26597025
160594 6-26757619
2 6-26757621
6 6-26757627
cg22243996 16 6-26757643
28 6-26757671
342108 6-27099779
4 6-27099783
7 6-27099790
cg14848772 22 6-27099812
cg02599464 7284 6-27107096
2 6-27107098
40 6-27107138
cg12920393 6 6-27107144
12 6-27107156
2 6-27107158
18223 6-27125381
2 6-27125383
40 6-27125423
18 6-27125441
cg02585598 30 6-27125471
cg12041340 28 6-27125499
57 6-27125556
387935 6-27513491
30 6-27513521
2 6-27513523
8 6-27513531
10 6-27513541
cg22796313 6 6-27513547
22 6-27513569
cg03161803 135550 6-27649119
12 6-27649131
12 6-27649143
4 6-27649147
12 6-27649159
13 6-27649172
cg25335190 142726 6-27791898
cg23222745 13 6-27791911
2 6-27791913
9 6-27791922
21 6-27791943
3 6-27791946
7 6-27791953
6 6-27791959
12 6-27791971
2 6-27791973
66544 6-27858517
2 6-27858519
11 6-27858530
3 6-27858533
cg17965019 11 6-27858544
14 6-27858558
4 6-27858562
445352 6-28303914
cg15743358 8 6-28303922
cg21138752 9 6-28303931
8 6-28303939
7 6-28303946
93 6-28304039
30 6-28304069
cg08343881 5 6-28304074
10 6-28304084
cg23084951 3 6-28304087
cg06903569 20 6-28304107
32 6-28304139
cg05605299 21 6-28304160
cg17968647 24 6-28304184
cg13997124 9 6-28304193
cg19013262 22 6-28304215
cg09996797 33 6-28304248
cg15845016 23631 6-28327879
628321 6-28956200
cg04122873 25 6-28956225

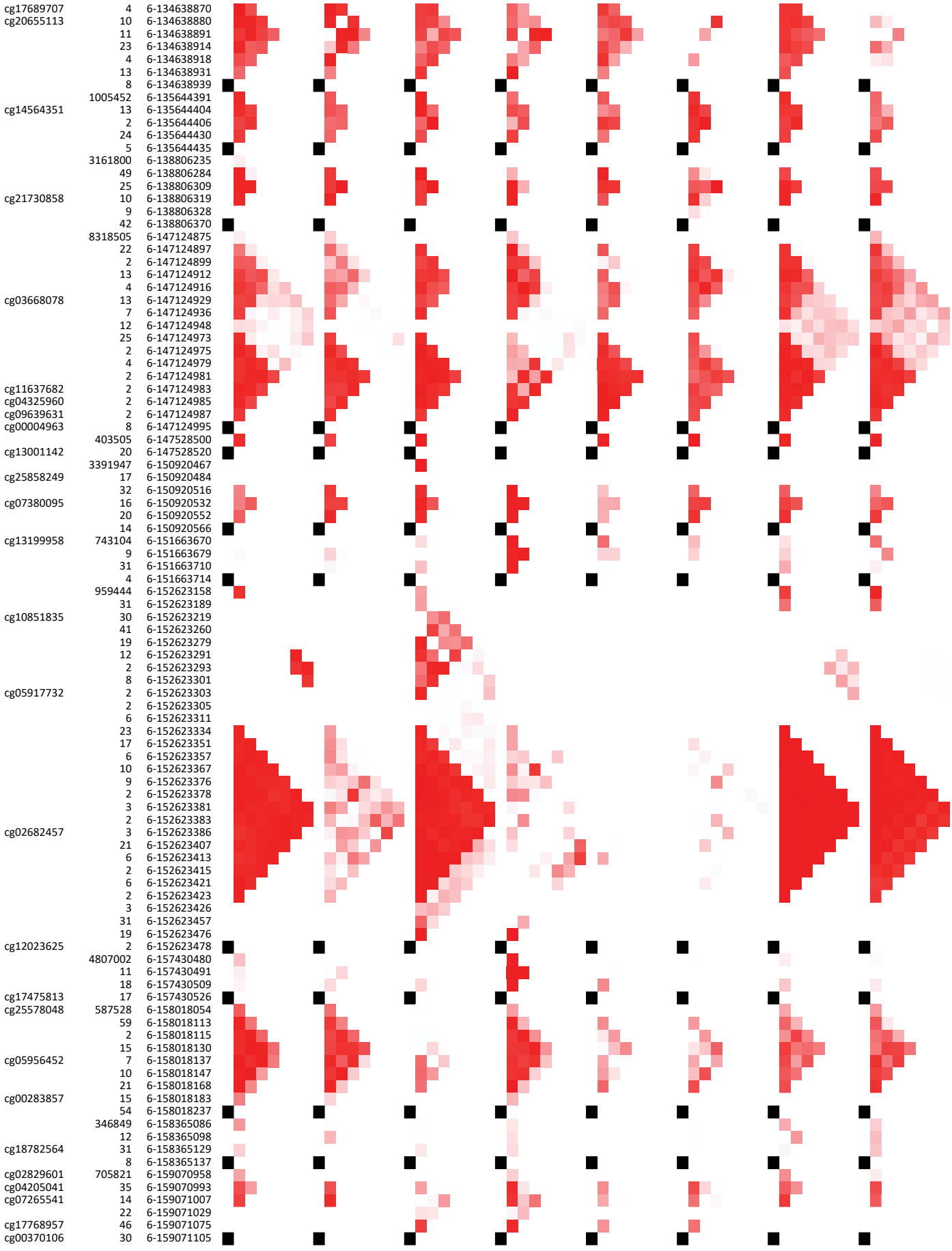

cg20777398 18 6-28956243
cg05404698 3 6-28956246
cg09556826 12 6-28956258
7 6-28956265
cg08377819 2 6-28956267
cg16622920 44 6-28956311
cg00667751 8 6-28956319
cg18803104 4 6-28956323
cg27304020 3 6-28956326
cg07124687 5 6-28956331
8 6-28956339
10 6-28956349
3 6-28956352
cg13501616 458557 6-29414909
cg01311802 15525 6-29430434
cg19372359 144693 6-29575127
cg18116160 17 6-29575144
7 6-29575151
cg01964152 520394 6-30095545
cg08548396 3 6-30095548
cg12534216 21 6-30095569
5 6-30095574
7 6-30095581
6 6-30095587
10 6-30095597
5 6-30095602
6 6-30095608
cg21988950 36082 6-30131690
19 6-30131709
cg09769113 9 6-30131718
3 6-30131721
21 6-30131742
cg23778358 6 6-30131748
cg05664039 6 6-30131754
35 6-30131789
9 6-30131798
cg05235884 7 6-30131805
cg00628477 15 6-30131820
cg01905142 19 6-30131839
cg11565299 7638 6-30139477
cg19115272 60 6-30139537
cg00030508 4 6-30139541
cg21643178 31 6-30139572
4 6-30139576
cg10108296 15 6-30139591
cg08977390 2 6-30139593
cg19913291 155838 6-30295431
cg06685111 34 6-30295465
cg08437578 18010 6-30313475
cg26564730 19 6-30313494
cg25261377 22 6-30313516
cg10110083 105328 6-30418844
cg24427993 2 6-30418846
cg01978544 11 6-30418857
cg07222604 14 6-30418871
cg18838346 196941 6-30615812
cg15023057 41 6-30615853
cg27375297 5 6-30615858
cg22413056 34343 6-30650201
23 6-30650224
499 6-30650723
cg23167351 13 6-30650736
2916 6-30653652
3 6-30653655
cg18335326 3 6-30653658
15 6-30653673
27 6-30653700
6 6-30653706
15 6-30653721
6 6-30653727
cg10098021 4 6-30653731
cg12197421 4 6-30653735
13 6-30653748
3 6-30653751
cg26683639 3 6-30653754
cg06644669 44 6-30653798
cg08794940 57274 6-30711072
cg14433074 17 6-30711089
27 6-30711116
cg19033654 21 6-30711137
cg09235583 3 6-30711140
cg04012931 23 6-30711163
cg08687386 42 6-30711205
cg10784519 26025 6-30737230
20 6-30737250
cg07220152 19 6-30737269
cg06393830 790619 6-31527888
cg04859102 4 6-31527892
cg24504194 27 6-31527919
cg21952119 157472 6-31685391
3 6-31685394
cg12951348 35 6-31685429
cg09409956 10 6-31685439
10051 6-31695490
cg03900314 61 6-31695551
cg12457415 7310 6-31702861
17 6-31702878
cg13622821 36 6-31702914

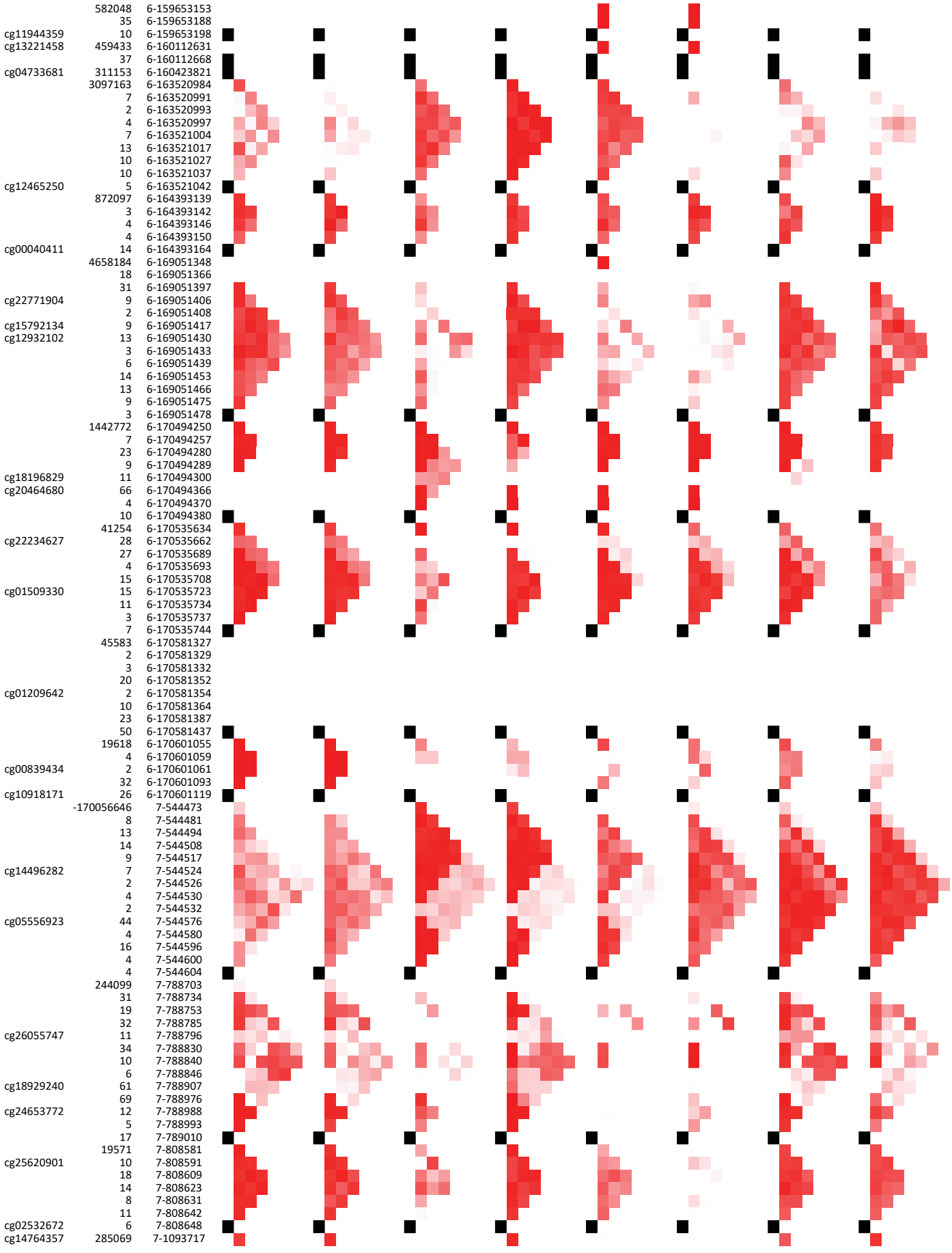
cg21091985	3307	6-31706221
cg00179217	125118	6-31831339
	23	6-31831362
	33	6-31831395
cg22753340	93	6-31831488
cg23174932	13	6-31831501
cg00397479	8	6-31831509
cg27084746	22	6-31831531
	12	6-31831543
cg03587557	9	6-31831552
cg19738463	21	6-31831573
cg17353698	25	6-31831598
	6740	6-31838338
cg10969178	63	6-31838401
cg10951325	17	6-31838418
cg11640015	6	6-31838424
	41	6-31838465
cg19853440	8	6-31838473
	16	6-31838489
cg18478100	277474	6-32115963
cg07885132	15	6-32115978
	13	6-32115991
cg10725623	15579	6-32131570
cg22101249	44	6-32131614
cg13165140	681907	6-32813521
cg09354037	9	6-32813530
cg25384897	13	6-32813543
	33	6-32813576
cg02756056	5	6-32813581
	9	6-32813590
cg00862588	95806	6-32909396
cg10518264	43	6-32909439
	10	6-32909449
cg21470947	43	6-32909492
cg01806857	245642	6-33155134
cg01536956	10442	6-33165576
cg16114213	15	6-33165591
cg24470206	6	6-33165597
	6	6-33165603
	30	6-33165633
cg07516307	24	6-33165657
cg11284973	9	6-33165666
cg14362925	40	6-33165706
cg16489193	74352	6-33240058
cg08342886	7	6-33240065
	6	6-33240071
cg09112371	18	6-33240089
	4	6-33240093
	4	6-33240097
cg22783602	22	6-33240119
cg22904406	48176	6-33288295
	18	6-33288313
cg26500914	9	6-33288322
cg09365002	6	6-33288328
cg09597022	3	6-33288331
cg03243551	609	6-33288940
cg13059373	3	6-33288943
cg14199833	20	6-33288963
	19	6-33288982
cg03768479	96331	6-33385313
	6	6-33385319
cg11624225	5	6-33385324
cg20249230	12	6-33385336
cg02833140	7	6-33385343
	6	6-33385349
	3	6-33385352
cg00256060	12	6-33385364
cg02882755	715598	6-34100962
cg01962826	4	6-34100966
	7	6-34100973
	21	6-34100994
	5	6-34100999
	11	6-34101010
	10	6-34101020
	957154	6-35058174
cg20300129	6	6-35058180
	5	6-35058185
	9	6-35058194
	10	6-35058204
	11	6-35058215
cg27321913	207163	6-35265378
	9	6-35265387
	13	6-35265400
cg05583848	10	6-35265410
cg13285319	6	6-35265416
	73	6-35265489
	18	6-35265507
cg02919168	26	6-35265533
cg10418263	10	6-35265543
cg07294541	11	6-35265554
cg13425174	13	6-35265567
	19	6-35265586
	19	6-35265605
cg03355690	10	6-35265615
	4	6-35265619
cg14960043	4	6-35265623
cg00237391	19	6-35265642
	29	6-35265671

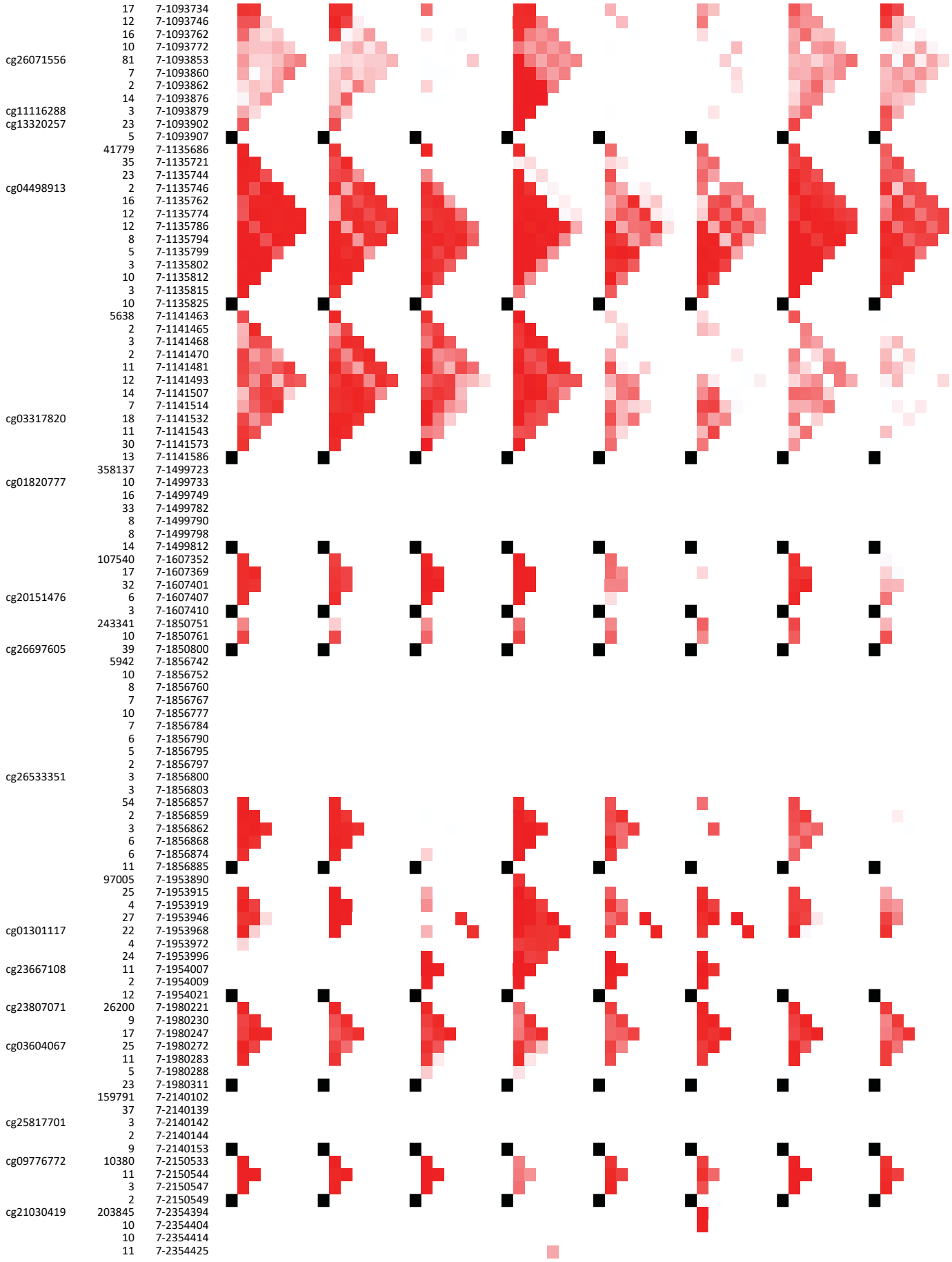


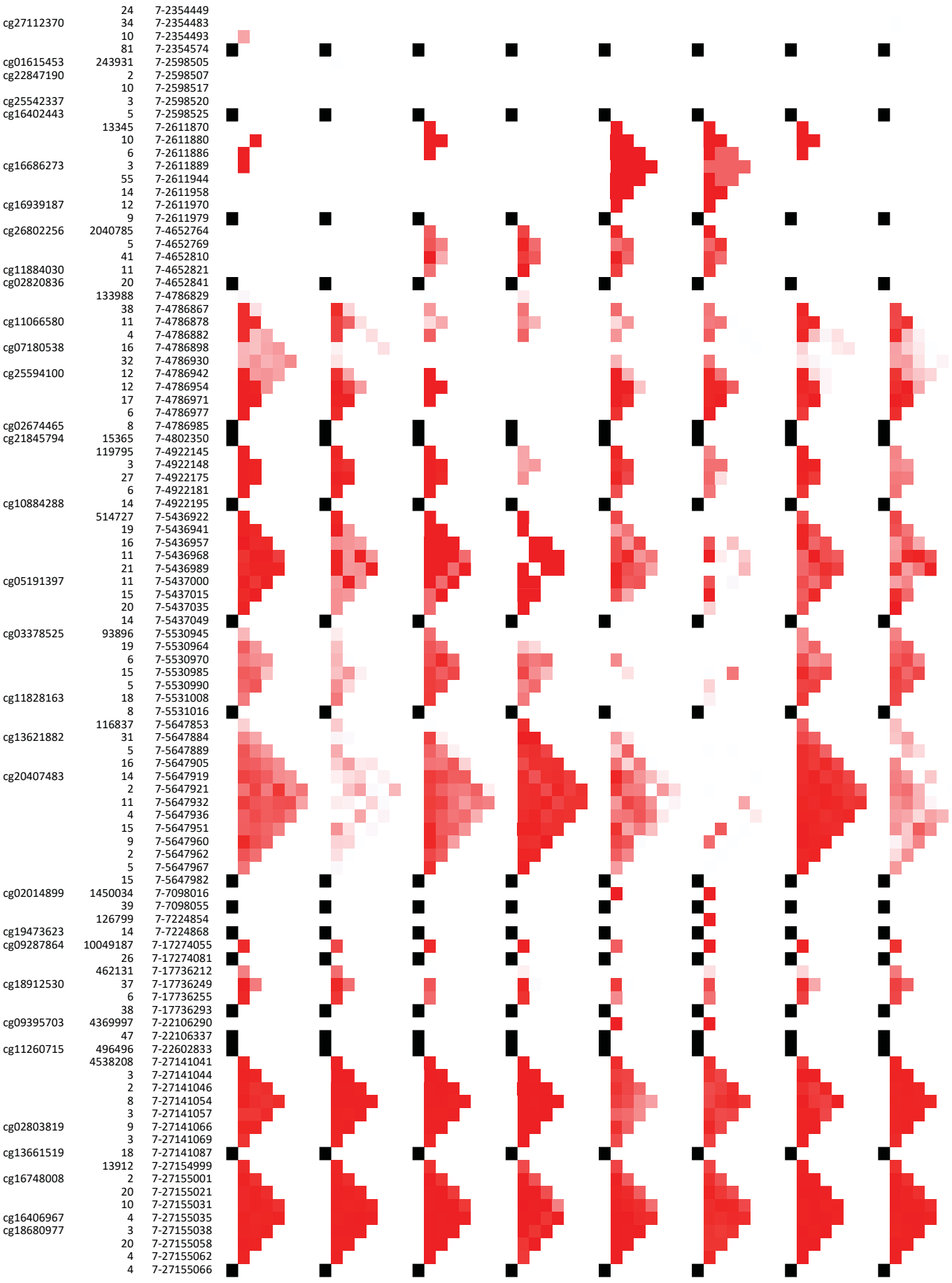

9 6-35265680
2 6-35265682
7 6-35265689
52 6-35265741
7 6-35265748
cg02927327 10 6-35265758
27 6-35265785
1706217 6-36972002
cg00226923 24 6-36972026
14 6-36972040
cg24419528 4024014 6-40996054
cg00592058 20 6-40996074
cg14418226 17 6-40996091
10 6-40996101
7 6-40996108
14 6-40996122
532326 6-41528448
33 6-41528481
4 6-41528485
5 6-41528490
6 6-41528496
2 6-41528498
cg03431741 3 6-41528501
5 6-41528506
449764 6-41978270
cg17945153 17 6-41978287
18 6-41978305
29 6-41978334
cg00938547 7938596 6-49916930
57 6-49916987
cg08178940 891639 6-50808626
20 6-50808646
3 6-50808649
5 6-50808654
4 6-50808658
4 6-50808662
cg08857063 4 6-50808666
15 6-50808681
2 6-50808683
13 6-50808696
cg09363735 2 6-50808698
25 6-50808723
2 6-50808725
10 6-50808735
9 6-50808744
466737 6-51275481
8 6-51275489
5 6-51275494
9 6-51275503
14 6-51275517
7 6-51275524
cg21715903 2 6-51275526
4 6-51275530
3 6-51275533
1650568 6-52926101
cg05402265 17 6-52926118
7 6-52926125
5 6-52926130
cg25141674 19204558 6-72130688
6 6-72130694
12 6-72130706
24 6-72130730
5 6-72130735
cg24772267 6 6-72130741
cg00920327 13 6-72130754
1199215 6-73329969
cg17126142 18 6-73329987
10 6-73329997
4 6-73330001
15 6-73330016
15 6-73330031
840827 6-74170858
61 6-74170919
cg19339848 17 6-74170936
cg11526848 1623863 6-75794799
26 6-75794825
10029339 6-85824164
cg13706058 3 6-85824167
10 6-85824177
2 6-85824179
14 6-85824193
cg10439246 2 6-85824195
10 6-85824205
cg11452329 10 6-85824215
2 6-85824217
15 6-85824232
17 6-85824249
5 6-85824254
5472882 6-91297136
49 6-91297185
cg01087382 4 6-91297189
30 6-91297219
54 6-91297273
8758729 6-100056002
22 6-100056024
17 6-100056041
2 6-100056043
cg13000912 16 6-100056059

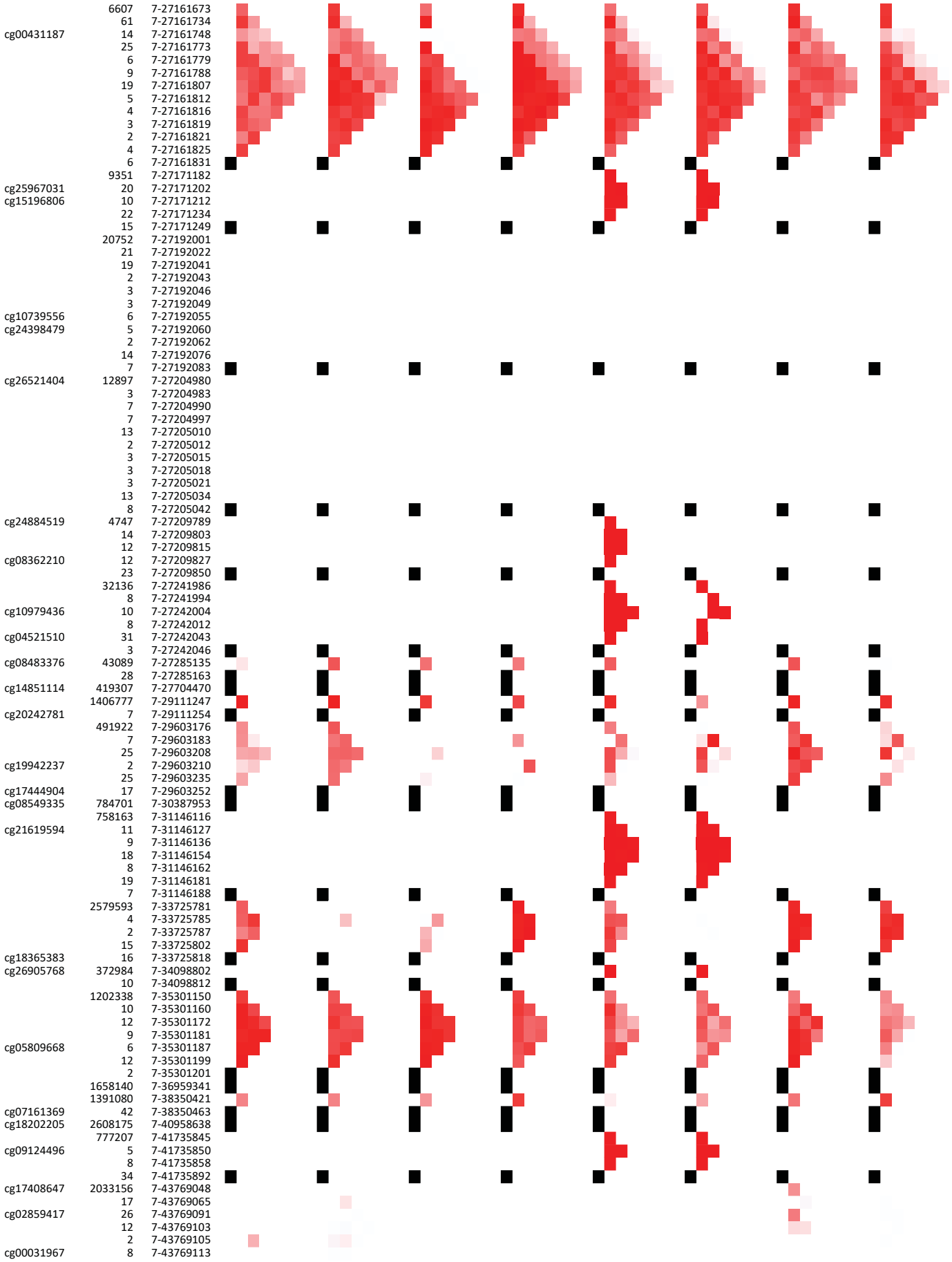

2 6-100056061
855454 6-100911515
cg12865837 10 6-100911525
cg24592906 24 6-100911549
1385 6-100912934
cg27252696 5 6-100912939
cg17380661 6 6-100912945
5 6-100912950
7 6-100912957
2 6-100912959
2 6-100912961
11 6-100912972
21 6-100912993
2 6-100912995
6 6-100913001
5632935 6-106545936
8 6-106545944
34 6-106545978
cg02667677 5 6-106545983
cg17356964 36654 6-106582637
15 6-106582652
8 6-106582660
cg25581448 8 6-106582668
19 6-106582687
3 6-106582690
14 6-106582704
cg08382226 1857634 6-108440338
5 6-108440343
28 6-108440371
14 6-108440385
4 6-108440389
44578 6-108484967
3 6-108484970
36 6-108485006
cg14712531 36 6-108485042
2 6-108485044
3 6-108485047
13 6-108485060
4 6-108485064
27 6-108485091
cg24472375 10 6-108485101
2 6-108485103
17 6-108485120
cg05135644 4674 6-108489794
10 6-108489804
5 6-108489809
2 6-108489811
23 6-108489834
10 6-108489844
7 6-108489851
3 6-108489854
6 6-108489860
3 6-108489863
cg06103642 6852 6-108496715
4 6-108496719
11 6-108496730
cg08997518 8104517 6-116601247
13 6-116601260
cg18597292 21 6-116601281
cg14744161 2 6-116601283
cg21543536 4 6-116601287
5157635 6-121758922
19 6-121758941
23 6-121758964
cg17160382 15 6-121758979
22 6-121759001
7 6-121759008
7 6-121759015
4 6-121759019
12 6-121759031
cg00635780 8329651 6-130088682
6 6-130088688
11 6-130088699
16 6-130088715
cg11029634 41 6-130088756
23 6-130088779
1977319 6-132066098
cg18334681 30 6-132066128
cg14623917 205419 6-132271547
4 6-132271551
31 6-132271582
cg24684168 5 6-132271587
10 6-132271597
1904631 6-134176228
cg26953727 2 6-134176230
11 6-134176241
cg10308833 6 6-134176247
14 6-134176261
4 6-134176265
13 6-134176278
6 6-134176284
cg21366688 315136 6-134491420
9 6-134491429
26 6-134491455
15 6-134491470
cg18566177 12 6-134491482
6 6-134491488
cg10105971 147378 6-134638866


cg17689707 4 6-134638870
cg20655113 10 6-134638880
11 6-134638891
23 6-134638914
4 6-134638918
13 6-134638931
8 6-134638939
1005452 6-135644391
cg14564351 13 6-135644404
2 6-135644406
24 6-135644430
5 6-135644435
3161800 6-138806235
49 6-138806284
25 6-138806309
cg21730858 10 6-138806319
9 6-138806328
42 6-138806370
8318505 6-147124875
22 6-147124897
2 6-147124899
13 6-147124912
4 6-147124916
cg03668078 13 6-147124929
7 6-147124936
12 6-147124948
25 6-147124973
2 6-147124975
4 6-147124979
2 6-147124981
cg11637682 2 6-147124983
cg04325960 2 6-147124985
cg09639631 2 6-147124987
cg00004963 8 6-147124995
403505 6-147528500
cg13001142 20 6-147528520
3391947 6-150920467
cg25858249 17 6-150920484
32 6-150920516
cg07380095 16 6-150920532
20 6-150920552
14 6-150920566
cg13199958 743104 6-151663670
9 6-151663679
31 6-151663710
4 6-151663714
959444 6-152623158
31 6-152623189
cg10851835 30 6-152623219
41 6-152623260
19 6-152623279
12 6-152623291
2 6-152623293
8 6-152623301
cg05917732 2 6-152623303
2 6-152623305
6 6-152623311
23 6-152623334
17 6-152623351
6 6-152623357
10 6-152623367
9 6-152623376
2 6-152623378
3 6-152623381
2 6-152623383
cg02682457 3 6-152623386
21 6-152623407
6 6-152623413
2 6-152623415
6 6-152623421
2 6-152623423
3 6-152623426
31 6-152623457
19 6-152623476
cg12023625 2 6-152623478
4807002 6-157430480
11 6-157430491
18 6-157430509
cg17475813 17 6-157430526
cg25578048 587528 6-158018054
59 6-158018113
2 6-158018115
15 6-158018130
cg05956452 7 6-158018137
10 6-158018147
21 6-158018168
cg00283857 15 6-158018183
54 6-158018237
346849 6-158365086
12 6-158365098
cg18782564 31 6-158365129
8 6-158365137
cg02829601 705821 6-159070958
cg04205041 35 6-159070993
cg07265541 14 6-159071007
22 6-159071029
cg17768957 46 6-159071075
cg00370106 30 6-159071105

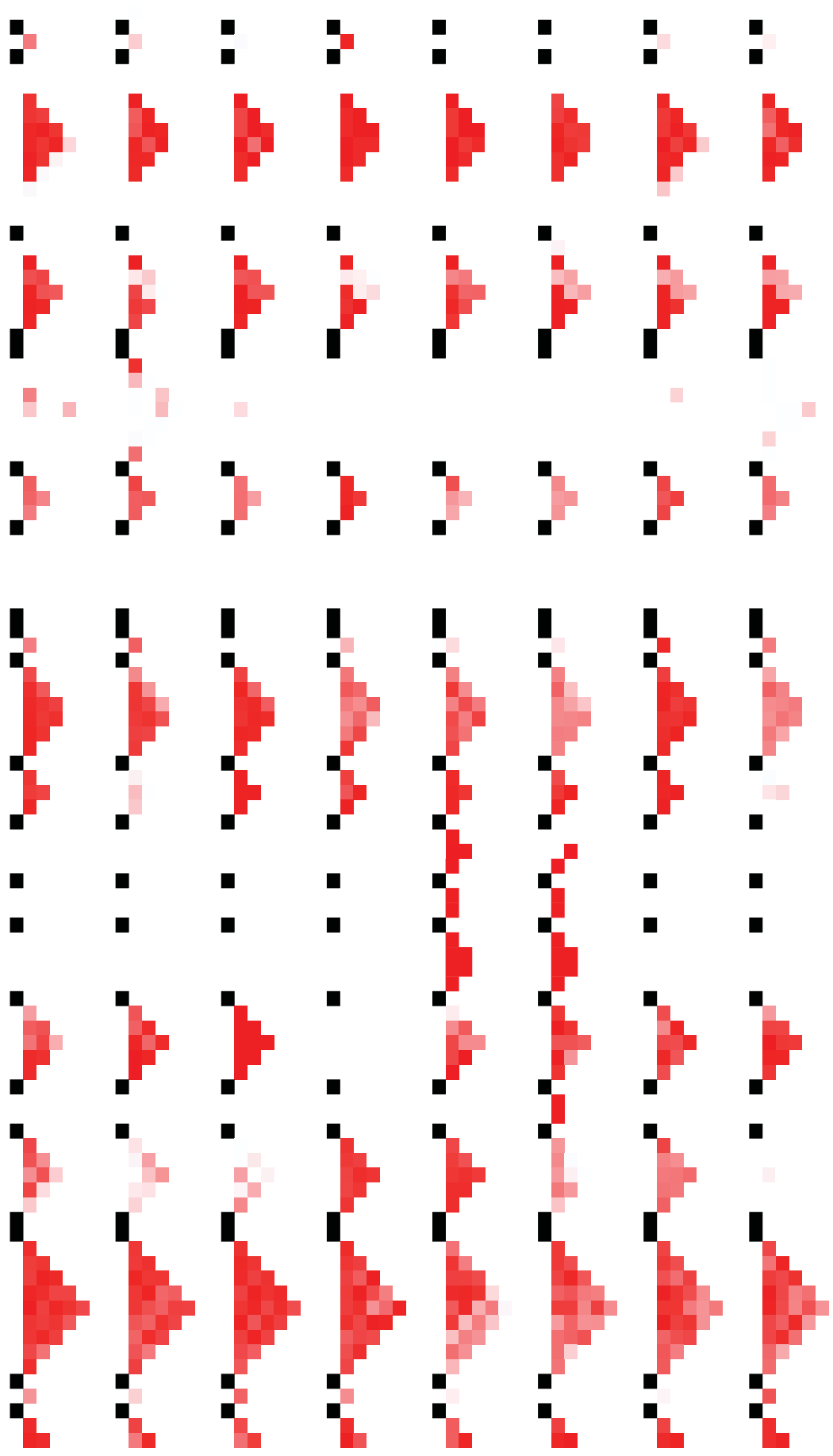

582048 6-159653153
35 6-159653188
cg11944359 10 6-159653198
cg13221458 459433 6-160112631
37 6-160112668
cg04733681 311153 6-160423821
3097163 6-163520984
7 6-163520991
2 6-163520993
4 6-163520997
7 6-163521004
13 6-163521017
10 6-163521027
10 6-163521037
cg12465250 5 6-163521042
872097 6-164393139
3 6-164393142
4 6-164393146
4 6-164393150
cg00040411 14 6-164393164
4658184 6-169051348
18 6-169051366
31 6-169051397
cg22771904 9 6-169051406
2 6-169051408
cg15792134 9 6-169051417
cg12932102 13 6-169051430
3 6-169051433
6 6-169051439
14 6-169051453
13 6-169051466
9 6-169051475
3 6-169051478
1442772 6-170494250
7 6-170494257
23 6-170494280
9 6-170494289
cg18196829 11 6-170494300
cg20464680 66 6-170494366
4 6-170494370
10 6-170494380
41254 6-170535634
cg22234627 28 6-170535662
27 6-170535689
4 6-170535693
15 6-170535708
cg01509330 15 6-170535723
11 6-170535734
3 6-170535737
7 6-170535744
45583 6-170581327
2 6-170581329
3 6-170581332
20 6-170581352
cg01209642 2 6-170581354
10 6-170581364
23 6-170581387
50 6-170581437
19618 6-170601055
4 6-170601059
cg00839434 2 6-170601061
32 6-170601093
cg10918171 26 6-170601119
-170056646 7-544473
8 7-544481
13 7-544494
14 7-544508
9 7-544517
cg14496282 7 7-544524
2 7-544526
4 7-544530
2 7-544532
cg05556923 44 7-544576
4 7-544580
16 7-544596
4 7-544600
4 7-544604
244099 7-788703
31 7-788734
19 7-788753
32 7-788785
cg26055747 11 7-788796
34 7-788830
10 7-788840
6 7-788846
cg18929240 61 7-788907
69 7-788976
cg24653772 12 7-788988
5 7-788993
17 7-789010
19571 7-808581
cg25620901 10 7-808591
18 7-808609
14 7-808623
8 7-808631
11 7-808642
cg02532672 6 7-808648
cg14764357 285069 7-1093717


cg26071556
cg11116288
cg13320257
cg04498913
cg03317820
cg01820777
cg20151476
cg26697605
cg26533351
cg01301117
cg23667108
cg23807071
cg03604067
cg25817701
cg09776772
cg21030419

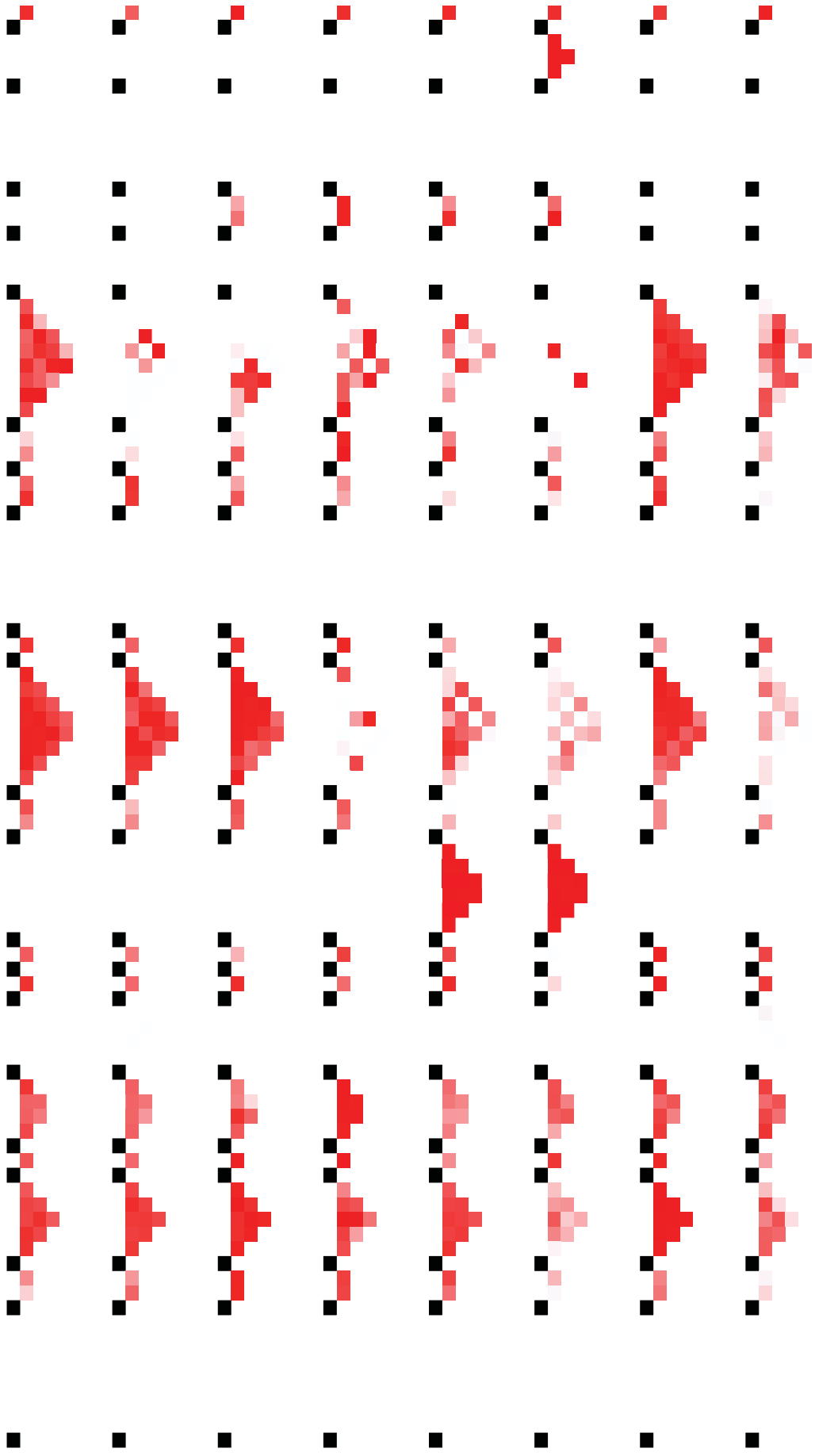

24 7-2354449
cg27112370 34 7-2354483
10 7-2354493
81 7-2354574
cg01615453 243931 7-2598505
cg22847190 2 7-2598507
10 7-2598517
cg25542337 3 7-2598520
cg16402443 5 7-2598525
13345 7-2611870
10 7-2611880
6 7-2611886
cg16686273 3 7-2611889
55 7-2611944
14 7-2611958
cg16939187 12 7-2611970
9 7-2611979
cg26802256 2040785 7-4652764
5 7-4652769
41 7-4652810
cg11884030 11 7-4652821
cg02820836 20 7-4652841
133988 7-4786829
38 7-4786867
cg11066580 11 7-4786878
4 7-4786882
cg07180538 16 7-4786898
32 7-4786930
cg25594100 12 7-4786942
12 7-4786954
17 7-4786971
6 7-4786977
cg02674465 8 7-4786985
cg21845794 15365 7-4802350
119795 7-4922145
3 7-4922148
27 7-4922175
6 7-4922181
cg10884288 14 7-4922195
514727 7-5436922
19 7-5436941
16 7-5436957
11 7-5436968
21 7-5436989
cg05191397 11 7-5437000
15 7-5437015
20 7-5437035
14 7-5437049
cg03378525 93896 7-5530945
19 7-5530964
6 7-5530970
15 7-5530985
5 7-5530990
cg11828163 18 7-5531008
8 7-5531016
116837 7-5647853
cg13621882 31 7-5647884
5 7-5647889
16 7-5647905
cg20407483 14 7-5647919
2 7-5647921
11 7-5647932
4 7-5647936
15 7-5647951
9 7-5647960
2 7-5647962
5 7-5647967
15 7-5647982
cg02014899 1450034 7-7098016
39 7-7098055
126799 7-7224854
cg19473623 14 7-7224868
cg09287864 10049187 7-17274055
26 7-17274081
462131 7-17736212
cg18912530 37 7-17736249
6 7-17736255
38 7-17736293
cg09395703 4369997 7-22106290
47 7-22106337
cg11260715 496496 7-22602833
4538208 7-27141041
3 7-27141044
2 7-27141046
8 7-27141054
3 7-27141057
cg02803819 9 7-27141066
3 7-27141069
cg13661519 18 7-27141087
13912 7-27154999
cg16748008 2 7-27155001
20 7-27155021
10 7-27155031
cg16406967 4 7-27155035
cg18680977 3 7-27155038
20 7-27155058
4 7-27155062
4 7-27155066

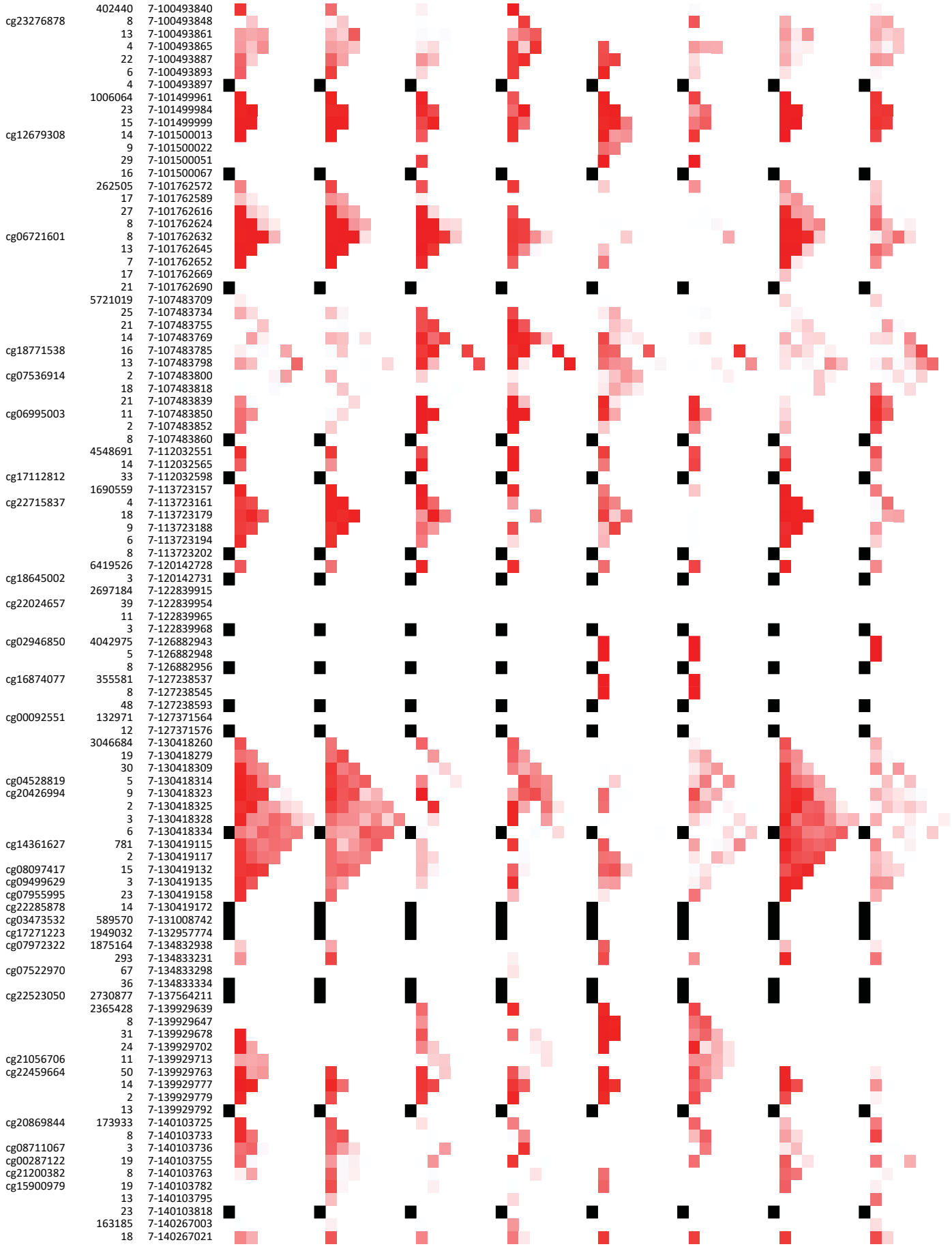

6607 7-27161673
61 7-27161734
cg00431187 14 7-27161748
25 7-27161773
6 7-27161779
9 7-27161788
19 7-27161807
5 7-27161812
4 7-27161816
3 7-27161819
2 7-27161821
4 7-27161825
6 7-27161831
9351 7-27171182
cg25967031 20 7-27171202
cg15196806 10 7-27171212
22 7-27171234
15 7-27171249
20752 7-27192001
21 7-27192022
19 7-27192041
2 7-27192043
3 7-27192046
3 7-27192049
cg10739556 6 7-27192055
cg24398479 5 7-27192060
2 7-27192062
14 7-27192076
7 7-27192083
cg26521404 12897 7-27204980
3 7-27204983
7 7-27204990
7 7-27204997
13 7-27205010
2 7-27205012
3 7-27205015
3 7-27205018
3 7-27205021
13 7-27205034
8 7-27205042
cg24884519 4747 7-27209789
14 7-27209803
12 7-27209815
cg08362210 12 7-27209827
23 7-27209850
32136 7-27241986
8 7-27241994
cg10979436 10 7-27242004
8 7-27242012
cg04521510 31 7-27242043
3 7-27242046
cg08483376 43089 7-27285135
28 7-27285163
cg14851114 419307 7-27704470
1406777 7-29111247
cg20242781 7 7-29111254
491922 7-29603176
7 7-29603183
25 7-29603208
cg19942237 2 7-29603210
25 7-29603235
cg17444904 17 7-29603252
cg08549335 784701 7-30387953
758163 7-31146116
cg21619594 11 7-31146127
9 7-31146136
18 7-31146154
8 7-31146162
19 7-31146181
7 7-31146188
2579593 7-33725781
4 7-33725785
2 7-33725787
15 7-33725802
cg18365383 16 7-33725818
cg26905768 372984 7-34098802
10 7-34098812
1202338 7-35301150
10 7-35301160
12 7-35301172
9 7-35301181
cg05809668 6 7-35301187
12 7-35301199
2 7-35301201
1658140 7-36959341
1391080 7-38350421
cg07161369 42 7-38350463
cg18202205 2608175 7-40958638
777207 7-41735845
cg09124496 5 7-41735850
8 7-41735858
34 7-41735892
cg17408647 2033156 7-43769048
17 7-43769065
cg02859417 26 7-43769091
12 7-43769103
2 7-43769105
cg00031967 8 7-43769113

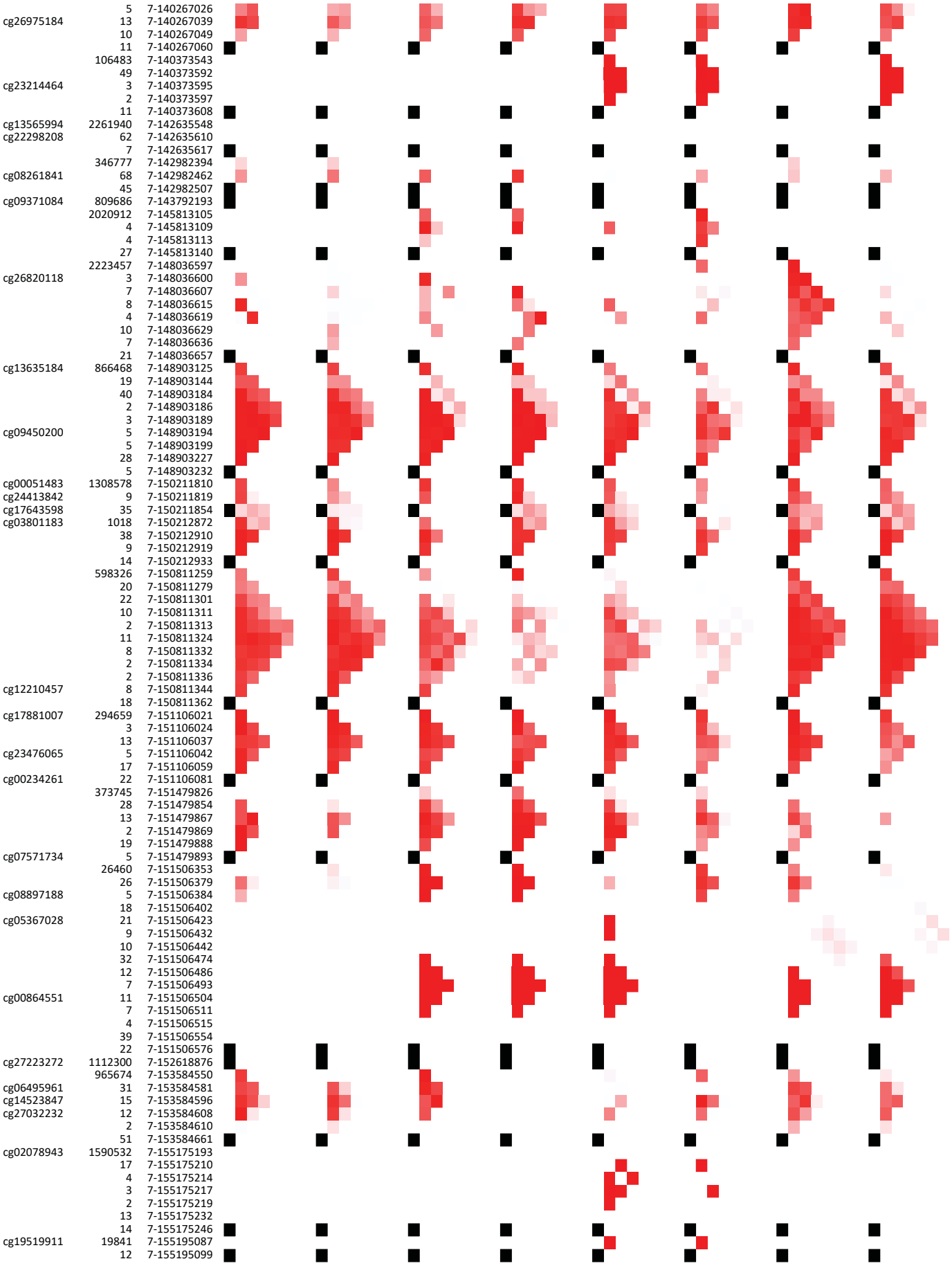
cg06751705	2	7-43769115
	6	7-43769121
	1025192	7-44794313
cg25489413	29	7-44794342
	224391	7-45018733
cg12416569	23	7-45018756
cg06787669	32	7-45018788
	25	7-45018813
	10	7-45018823
	8	7-45018831
	9	7-45018840
cg10673833	8	7-45018848
	18	7-45018866
	17	7-45018883
	13	7-45018896
	39	7-45018935
	47714	7-45066649
	79	7-45066728
cg17349352	9	7-45066737
cg23235142	103	7-45066840
	2	7-45066842
cg26433975	15	7-45066857
cg18205668	37	7-45066894
cg11970133	77204	7-45144098
	7393	7-45151491
cg14948946	11	7-45151502
	9	7-45151511
cg07900786	13	7-45151524
	7	7-45151531
	7	7-45151538
	14	7-45151552
cg10090217	30	7-45151582
	5317414	7-50468996
	3	7-50468999
	20	7-50469019
cg23720063	22	7-50469041
	91460	7-50560501
	4	7-50560505
	3	7-50560508
cg21080473	15	7-50560523
	13	7-50560536
	8	7-50560544
cg15001032	72449	7-50632993
cg03663556	267562	7-50900555
	32	7-50900587
cg14225678	3711737	7-54612324
cg21179088	8	7-54612332
	2	7-54612334
	5	7-54612339
	5	7-54612344
	3	7-54612347
	4	7-54612351
cg27598340	533375	7-55145726
	23	7-55145749
	4	7-55145753
	2	7-55145755
	370993	7-55516748
cg25966908	2	7-55516750
	19	7-55516769
	21	7-55516790
	1558646	7-57075436
	16	7-57075452
cg04290108	3	7-57075455
	172179	7-57247634
	41	7-57247675
	2	7-57247677
	3	7-57247680
cg02066813	26	7-57247706
	5969606	7-63217312
	3	7-63217315
	9	7-63217324
cg21444484	19	7-63217343
	6	7-63217349
	12	7-63217361
cg05632088	450084	7-63667445
cg14319135	6	7-63667451
	11	7-63667462
	665466	7-64332928
	2	7-64332930
	19	7-64332949
	14	7-64332963
cg09588392	6	7-64332969
	15	7-64332984
cg00987534	8874983	7-73207967
	37764	7-73245731
	5	7-73245736
cg06350432	15	7-73245751
	15	7-73245766
	5	7-73245771
	2	7-73245773
	6	7-73245779
	18	7-73245797
	15	7-73245812
	12	7-73245824
cg08412188	828531	7-74074355
	50	7-74074405
	1512011	7-75586416
	3	7-75586419

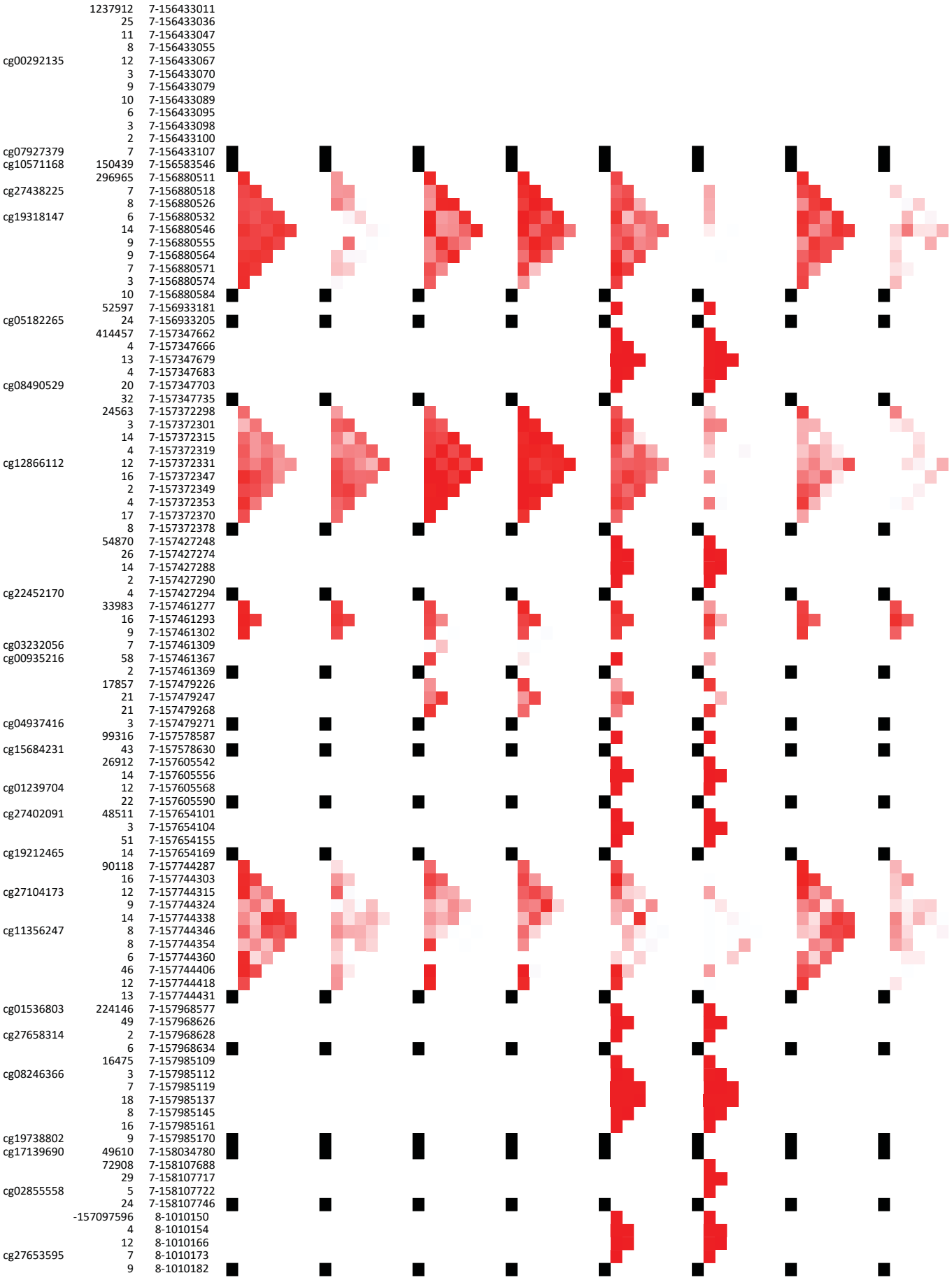


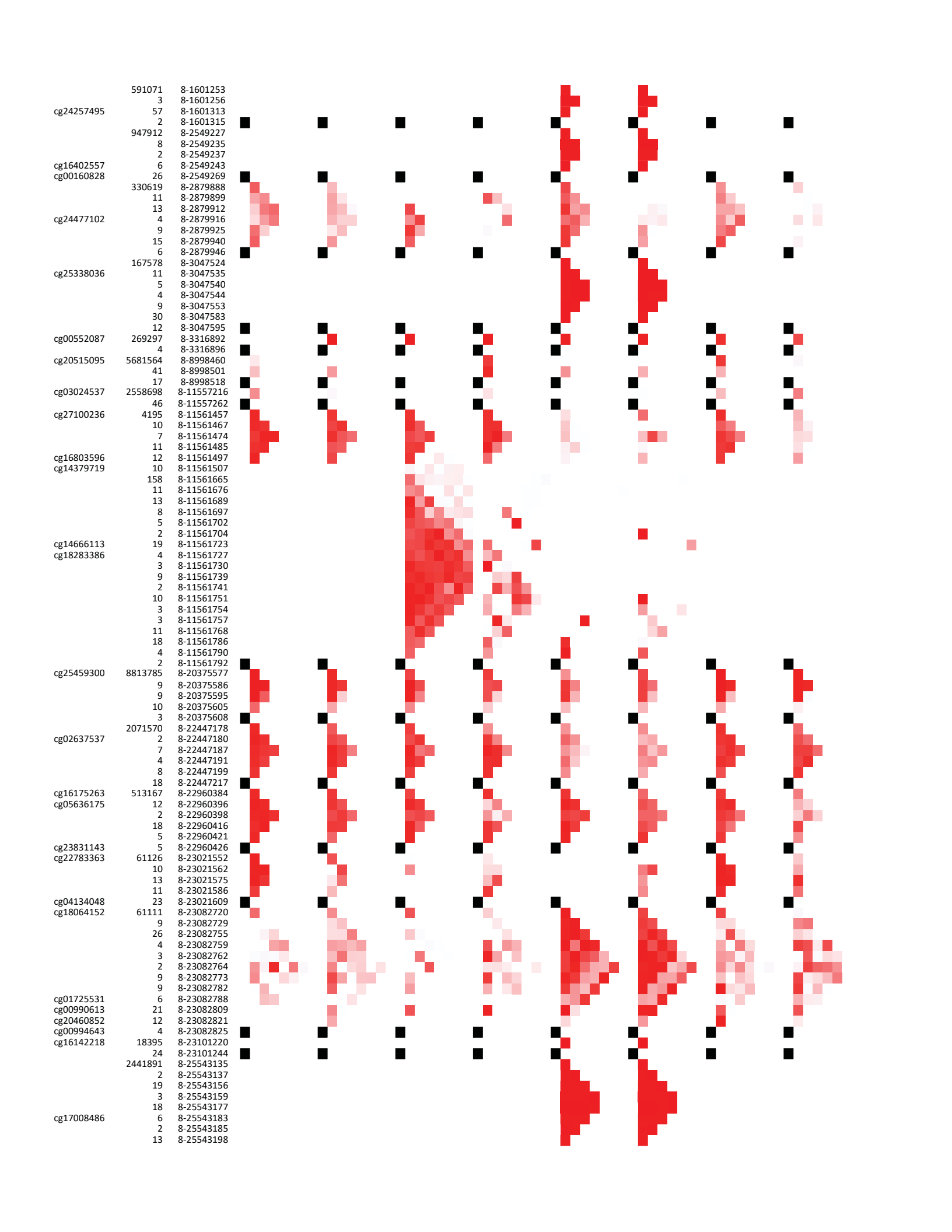
	4	7-75586423
	10	7-75586433
	53293	7-75639726
	6	7-75639732
cg15143037	21	7-75639753
	12	7-75639765
	292791	7-75932556
cg21217886	5	7-75932561
	12	7-75932573
	23	7-75932596
	13	7-75932609
	5	7-75932614
	9	7-75932623
	896519	7-76829142
	74	7-76829216
	24	7-76829240
	338086	7-77167326
cg14249856	2	7-77167328
	7	7-77167335
	18	7-77167353
	1915660	7-79083013
	15	7-79083028
	7	7-79083035
	10	7-79083045
	2	7-79083047
	2	7-79083049
	2	7-79083051
cg12258161	2	7-79083053
cg14464244	2	7-79083055
cg25311335	4396423	7-83479478
	29	7-83479507
	8	7-83479515
	2794169	7-86273684
	30	7-86273714
cg23183497	3	7-86273717
	507683	7-86781400
	10	7-86781410
	2	7-86781412
	9	7-86781421
	5	7-86781426
cg18219532	25	7-86781451
cg17668163	5	7-86781456
cg27089973	2	7-86781458
cg06824394	65076	7-86846534
	62	7-86846596
	383233	7-87229829
	5	7-87229834
	2	7-87229836
	2	7-87229838
	9	7-87229847
	2	7-87229849
	5	7-87229854
cg16772035	25	7-87229879
	9	7-87229888
	9396754	7-96626642
cg25825506	16	7-96626658
	14	7-96626672
	6132	7-96632804
	6	7-96632810
	3	7-96632813
	16	7-96632829
cg04832767	11	7-96632840
	2	7-96632842
	7	7-96632849
	11900	7-96644749
cg26033466	32	7-96644781
cg12041387	5389	7-96650170
cg08835113	21	7-96650191
	951472	7-97601663
cg06519449	16	7-97601679
cg03223221	18	7-97601697
	5	7-97601702
cg07327970	5	7-97601707
	709617	7-98311324
	3	7-98311327
	13	7-98311340
	22	7-98311362
cg02928476	19	7-98311381
cg07594085	680773	7-98992154
	60	7-98992214
	688050	7-99680264
cg15571730	13	7-99680277
cg00929606	2	7-99680279
cg08431693	7	7-99680286
cg17851657	9	7-99680295
cg11300402	28	7-99680323
cg09417640	42838	7-99723161
	22	7-99723183
	24	7-99723207
	368141	7-100091348
	4	7-100091352
	6	7-100091358
cg03113878	5	7-100091363
	20	7-100091383
	2	7-100091385
	6	7-100091391
	4	7-100091395
	5	7-100091400

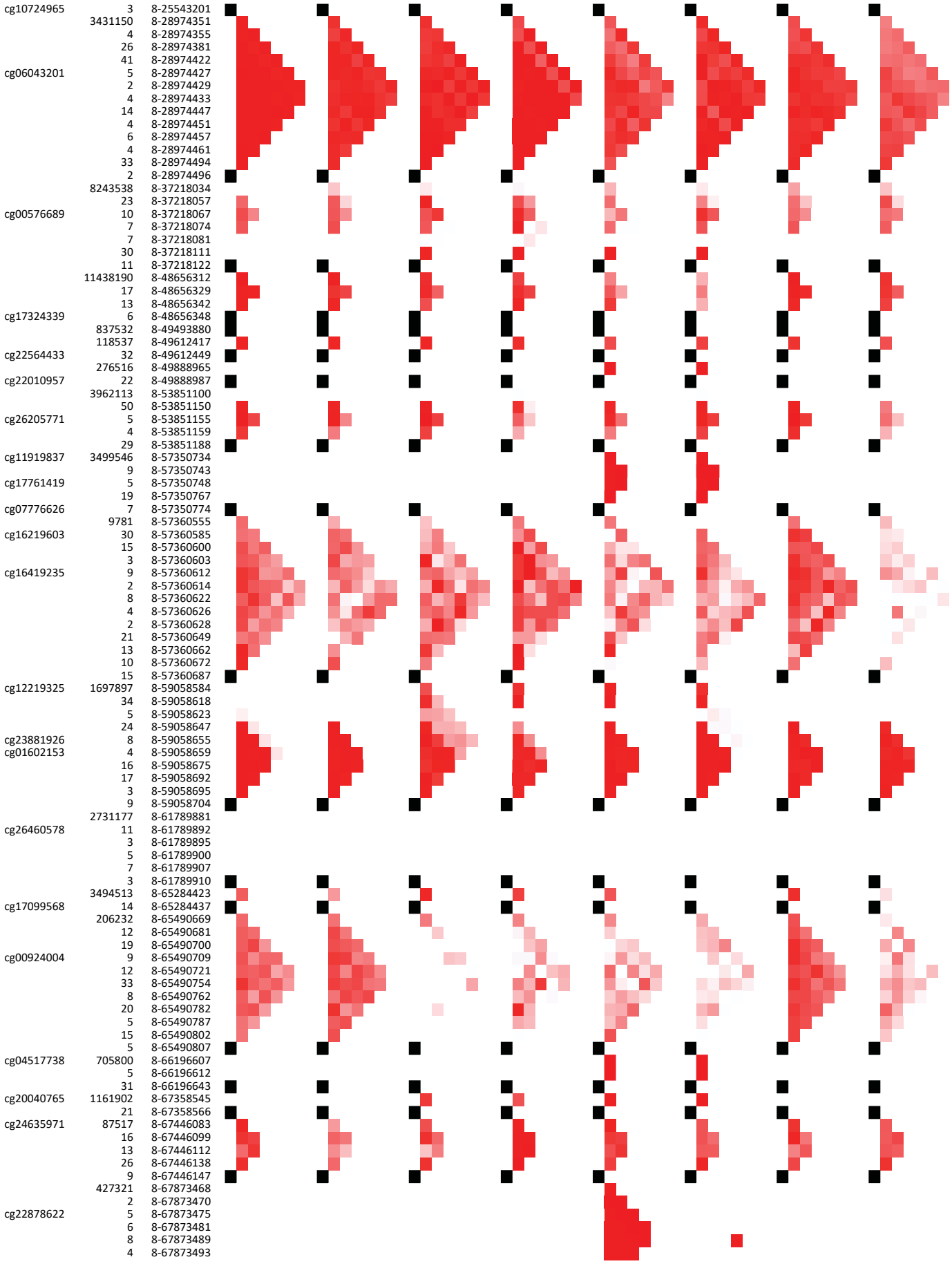


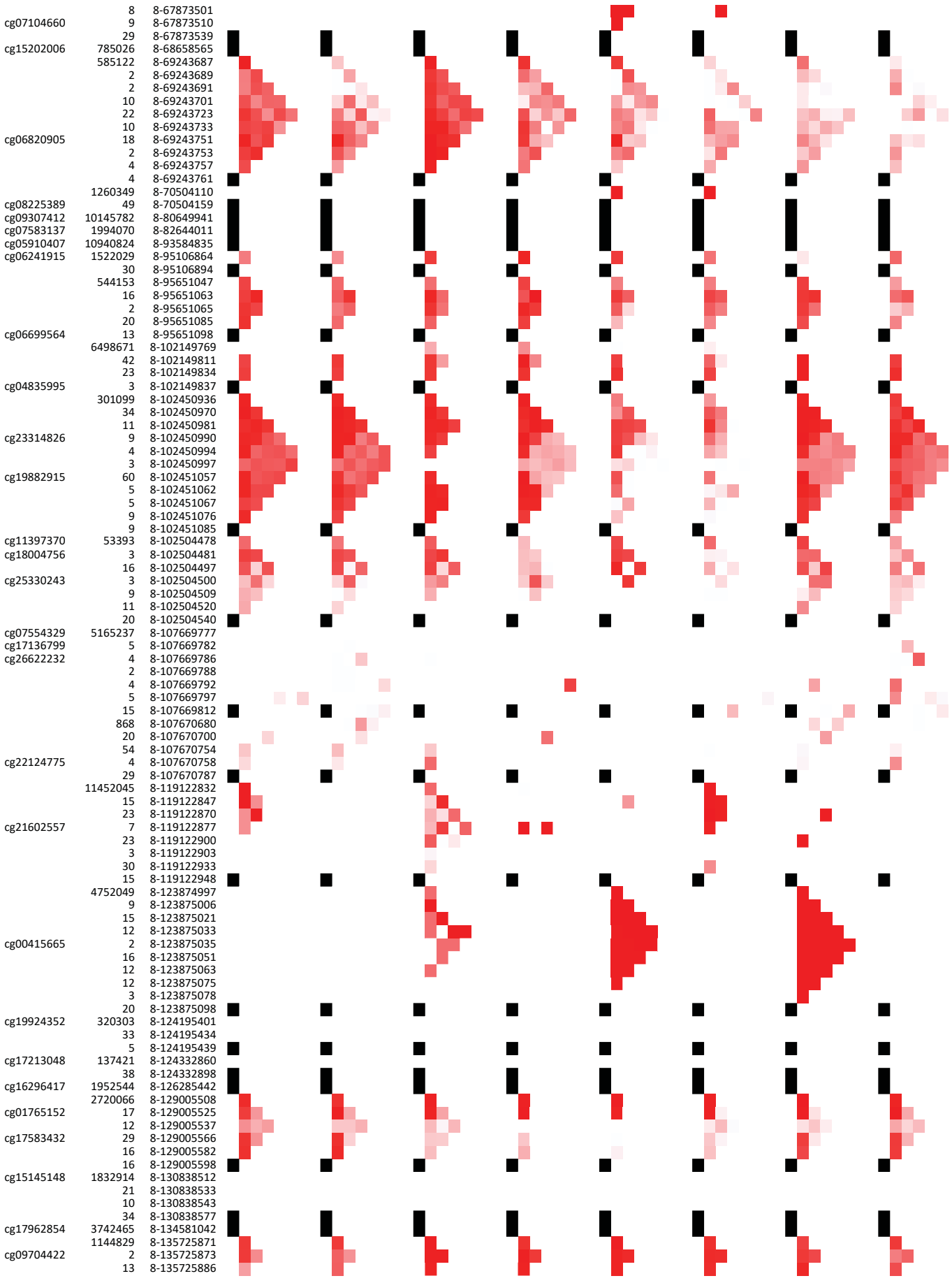

cg23276878
cg12679308
cg06721601
cg18771538
cg07536914
cg06995003
cg17112812
cg22715837
cg18645002
cg22024657
cg02946850
cg16874077
cg00092551
cg04528819
cg20426994
cg14361627
cg08097417
cg09499629
cg07955995
cg22285878
cg03473532
cg17271223
cg07972322
cg07522970
cg22523050
cg21056706
cg22459664
cg20869844
cg08711067
cg00287122
cg21200382
cg15900979
402440 7-100493840
8 7-100493848
13 7-100493861
4 7-100493865
22 7-100493887
6 7-100493893
4 7-100493897
1006064 7-101499961
23 7-101499984
15 7-101499999
14 7-101500013
9 7-101500022
29 7-101500051
16 7-101500067
262505 7-101762572
17 7-101762589
27 7-101762616
8 7-101762624
8 7-101762632
13 7-101762645
7 7-101762652
17 7-101762669
21 7-101762690
5721019 7-107483709
25 7-107483734
21 7-107483755
14 7-107483769
16 7-107483785
13 7-107483798
2 7-107483800
18 7-107483818
21 7-107483839
11 7-107483850
2 7-107483852
8 7-107483860
4548691 7-112032551
14 7-112032565
33 7-112032598
1690559 7-113723157
4 7-113723161
18 7-113723179
9 7-113723188
6 7-113723194
8 7-113723202
6419526 7-120142728
3 7-120142731
2697184 7-122839915
39 7-122839954
11 7-122839965
3 7-122839968
4042975 7-126882943
5 7-126882948
8 7-126882956
355581 7-127238537
8 7-127238545
48 7-127238593
132971 7-127371564
12 7-127371576
3046684 7-130418260
19 7-130418279
30 7-130418309
5 7-130418314
9 7-130418323
2 7-130418325
3 7-130418328
6 7-130418334
781 7-130419115
2 7-130419117
15 7-130419132
3 7-130419135
23 7-130419158
14 7-130419172
589570 7-131008742
1949032 7-132957774
1875164 7-134832938
293 7-134833231
67 7-134833298
36 7-134833334
2730877 7-137564211
2365428 7-139929639
8 7-139929647
31 7-139929678
24 7-139929702
11 7-139929713
50 7-139929763
14 7-139929777
2 7-139929779
13 7-139929792
173933 7-140103725
8 7-140103733
3 7-140103736
19 7-140103755
8 7-140103763
19 7-140103782
13 7-140103795
23 7-140103818
163185 7-140267003
18 7-140267021

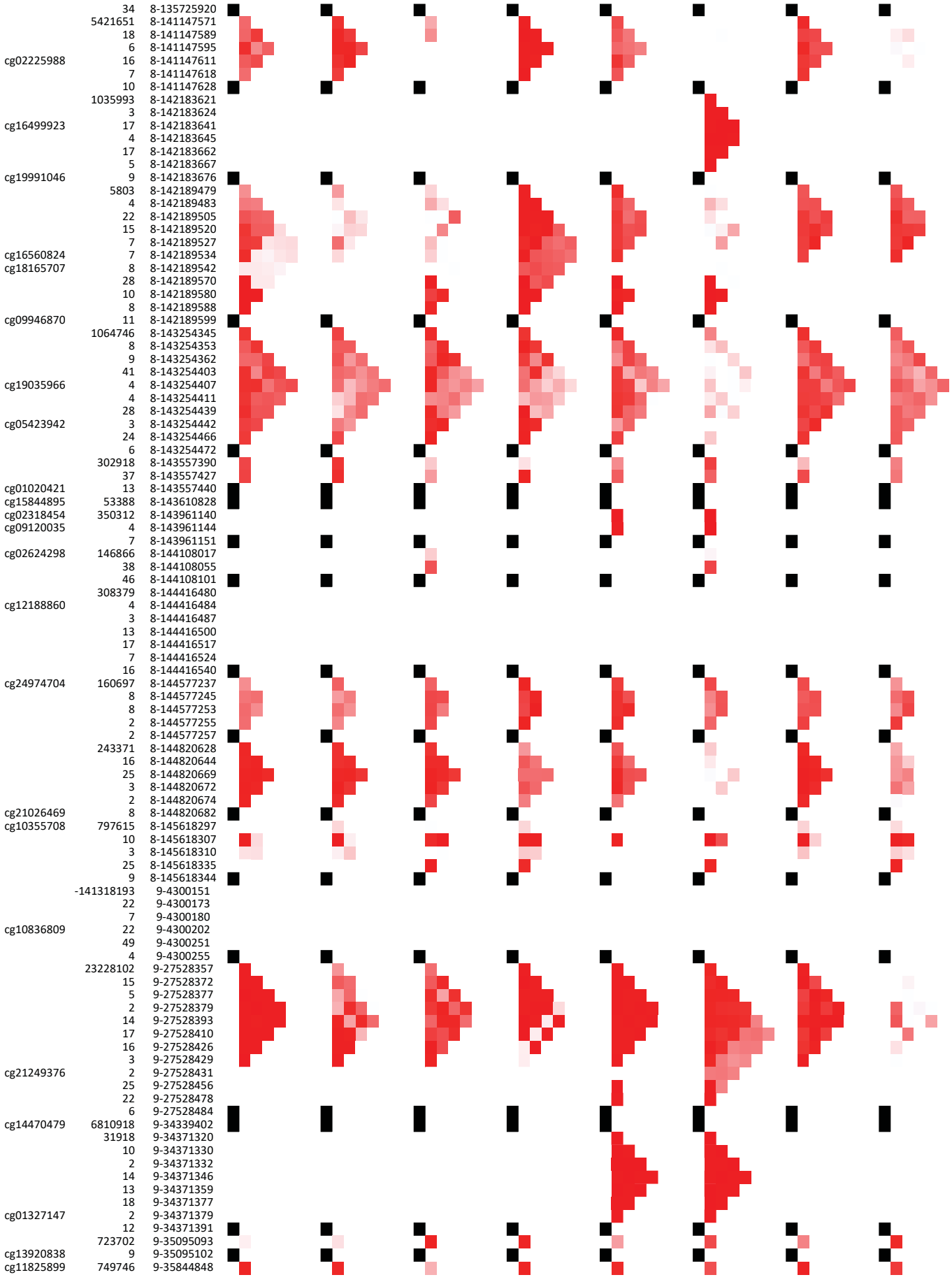

cg26975184
cg23214464
cg13565994
cg22298208
cg08261841
cg09371084
cg26820118
cg13635184
cg09450200
cg00051483
cg24413842
cg17643598
cg03801183
cg12210457
cg17881007
cg23476065
cg00234261
cg07571734
cg08897188
cg05367028
cg00864551
cg27223272
cg06495961
cg14523847
cg27032232
cg02078943
cg19519911

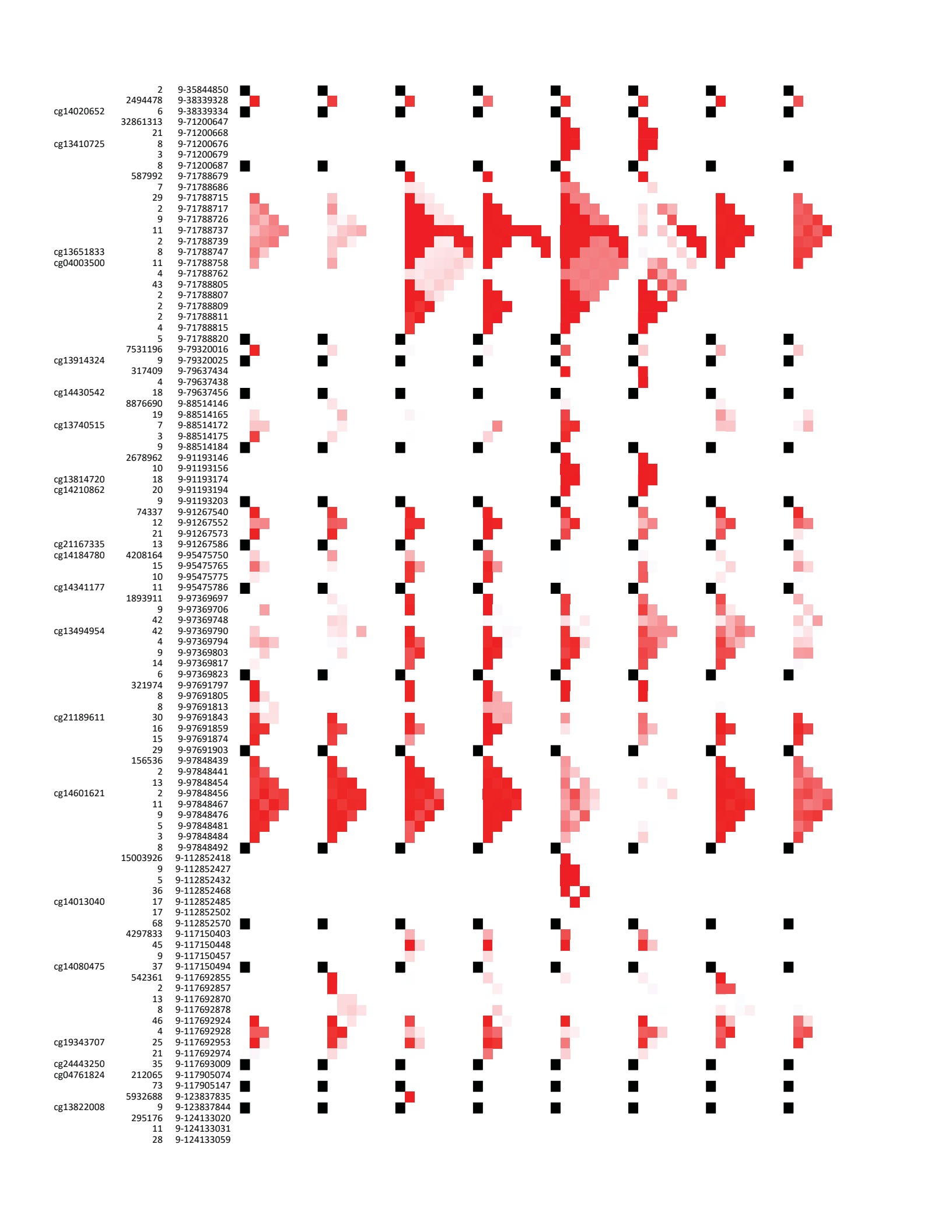

1237912 7-156433011
25 7-156433036
11 7-156433047
8 7-156433055
cg00292135 12 7-156433067
3 7-156433070
9 7-156433079
10 7-156433089
6 7-156433095
3 7-156433098
2 7-156433100
cg07927379 7 7-156433107
cg10571168 150439 7-156583546
296965 7-156880511
cg27438225 7 7-156880518
8 7-156880526
cg19318147 6 7-156880532
14 7-156880546
9 7-156880555
9 7-156880564
7 7-156880571
3 7-156880574
10 7-156880584
52597 7-156933181
cg05182265 24 7-156933205
414457 7-157347662
4 7-157347666
13 7-157347679
4 7-157347683
cg08490529 20 7-157347703
32 7-157347735
24563 7-157372298
3 7-157372301
14 7-157372315
4 7-157372319
cg12866112 12 7-157372331
16 7-157372347
2 7-157372349
4 7-157372353
17 7-157372370
8 7-157372378
54870 7-157427248
26 7-157427274
14 7-157427288
2 7-157427290
cg22452170 4 7-157427294
33983 7-157461277
16 7-157461293
9 7-157461302
cg03232056 7 7-157461309
cg00935216 58 7-157461367
2 7-157461369
17857 7-157479226
21 7-157479247
21 7-157479268
cg04937416 3 7-157479271
99316 7-157578587
cg15684231 43 7-157578630
26912 7-157605542
14 7-157605556
cg01239704 12 7-157605568
22 7-157605590
cg27402091 48511 7-157654101
3 7-157654104
51 7-157654155
cg19212465 14 7-157654169
90118 7-157744287
16 7-157744303
cg27104173 12 7-157744315
9 7-157744324
14 7-157744338
cg11356247 8 7-157744346
8 7-157744354
6 7-157744360
46 7-157744406
12 7-157744418
13 7-157744431
cg01536803 224146 7-157968577
49 7-157968626
cg27658314 2 7-157968628
6 7-157968634
16475 7-157985109
cg08246366 3 7-157985112
7 7-157985119
18 7-157985137
8 7-157985145
16 7-157985161
cg19738802 9 7-157985170
cg17139690 49610 7-158034780
72908 7-158107688
29 7-158107717
cg02855558 5 7-158107722
24 7-158107746
-157097596 8-1010150
4 8-1010154
12 8-1010166
cg27653595 7 8-1010173
9 8-1010182

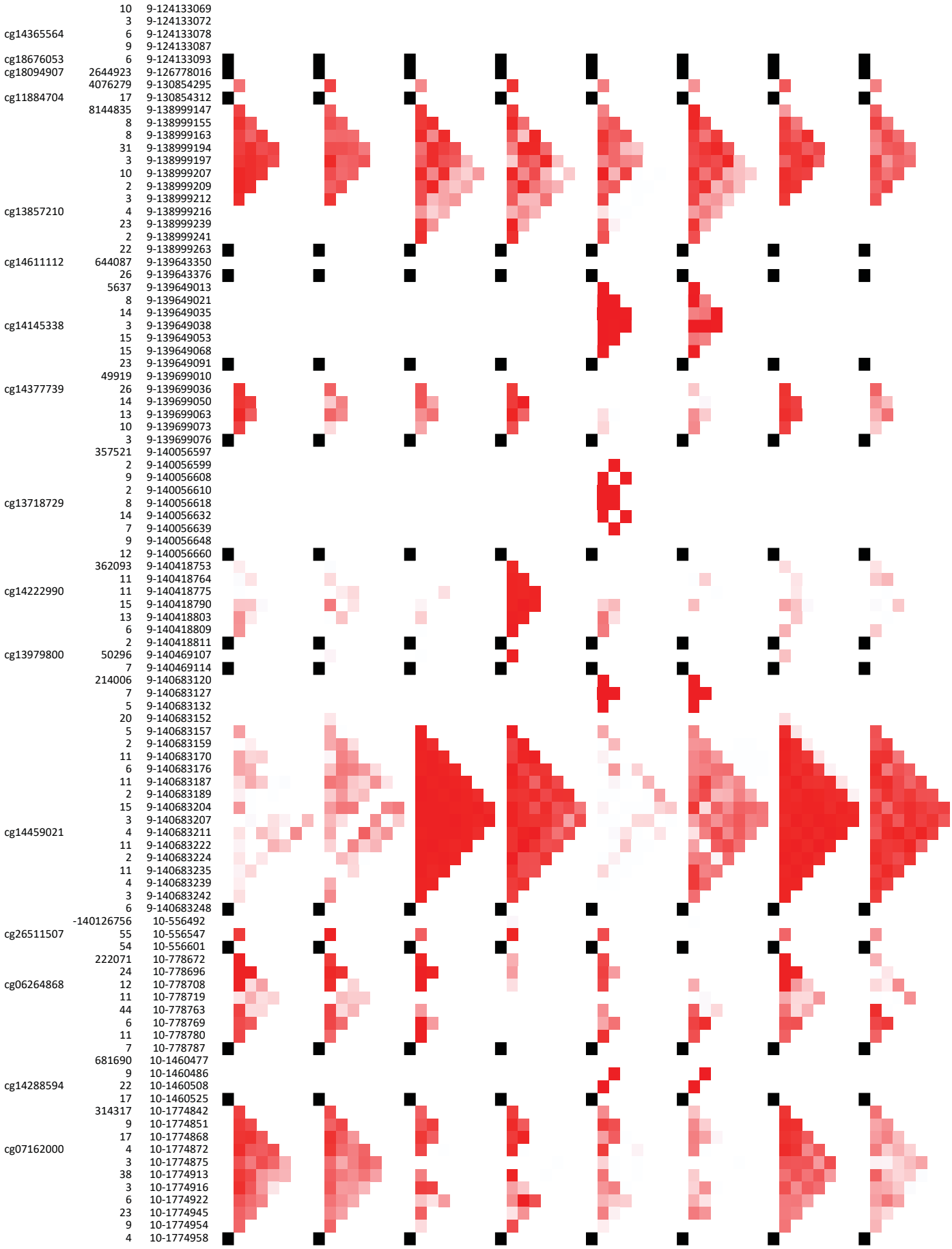


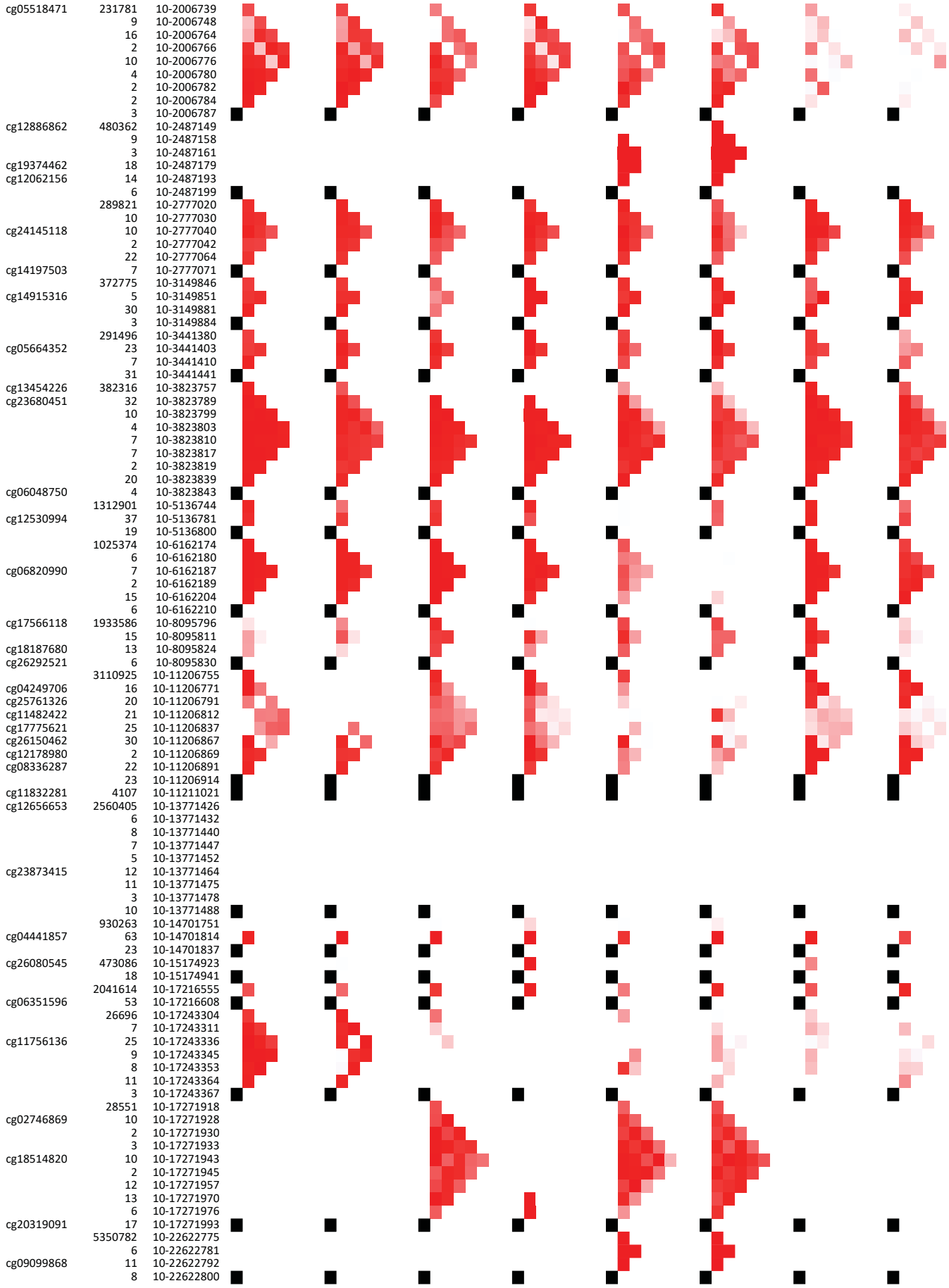

cg10724965 3 8-25543201
3431150 8-28974351
4 8-28974355
26 8-28974381
41 8-28974422
cg06043201 5 8-28974427
2 8-28974429
4 8-28974433
14 8-28974447
4 8-28974451
6 8-28974457
4 8-28974461
33 8-28974494
2 8-28974496
8243538 8-37218034
23 8-37218057
cg00576689 10 8-37218067
7 8-37218074
7 8-37218081
30 8-37218111
11 8-37218122
11438190 8-48656312
17 8-48656329
13 8-48656342
cg17324339 6 8-48656348
837532 8-49493880
118537 8-49612417
cg22564433 32 8-49612449
276516 8-49888965
cg22010957 22 8-49888987
3962113 8-53851100
50 8-53851150
cg26205771 5 8-53851155
4 8-53851159
29 8-53851188
cg11919837 3499546 8-57350734
9 8-57350743
cg17761419 5 8-57350748
19 8-57350767
cg07776626 7 8-57350774
9781 8-57360555
cg16219603 30 8-57360585
15 8-57360600
3 8-57360603
cg16419235 9 8-57360612
2 8-57360614
8 8-57360622
4 8-57360626
2 8-57360628
21 8-57360649
13 8-57360662
10 8-57360672
15 8-57360687
cg12219325 1697897 8-59058584
34 8-59058618
5 8-59058623
24 8-59058647
cg23881926 8 8-59058655
cg01602153 4 8-59058659
16 8-59058675
17 8-59058692
3 8-59058695
9 8-59058704
2731177 8-61789881
cg26460578 11 8-61789892
3 8-61789895
5 8-61789900
7 8-61789907
3 8-61789910
3494513 8-65284423
cg17099568 14 8-65284437
206232 8-65490669
12 8-65490681
19 8-65490700
cg00924004 9 8-65490709
12 8-65490721
33 8-65490754
8 8-65490762
20 8-65490782
5 8-65490787
15 8-65490802
5 8-65490807
cg04517738 705800 8-66196607
5 8-66196612
31 8-66196643
cg20040765 1161902 8-67358545
21 8-67358566
cg24635971 87517 8-67446083
16 8-67446099
13 8-67446112
26 8-67446138
9 8-67446147
427321 8-67873468
2 8-67873470
cg22878622 5 8-67873475
6 8-67873481
8 8-67873489
4 8-67873493

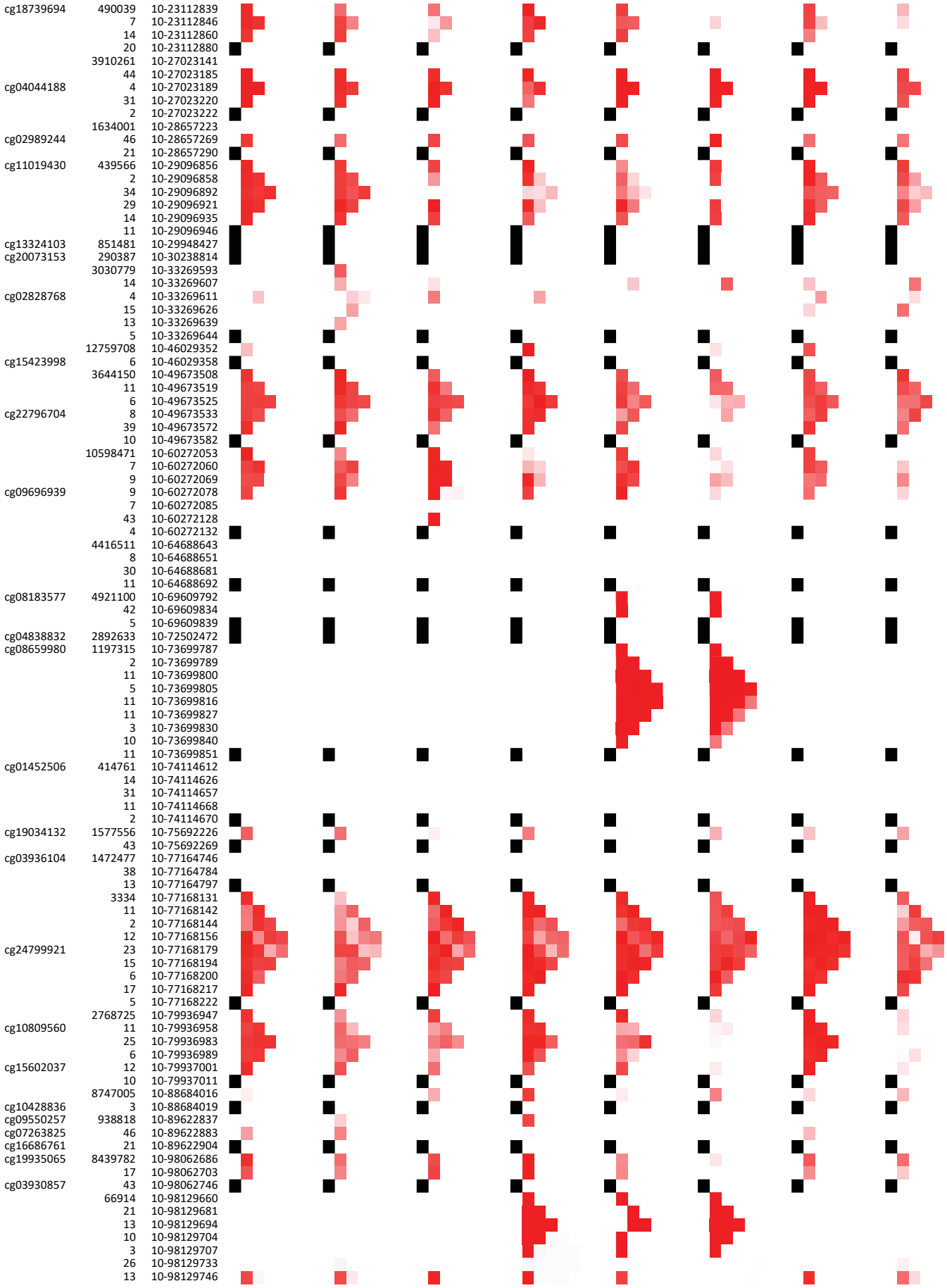

8 8-67873501
cg07104660 9 8-67873510
29 8-67873539
cg15202006 785026 8-68658565
585122 8-69243687
2 8-69243689
2 8-69243691
10 8-69243701
22 8-69243723
10 8-69243733
cg06820905 18 8-69243751
2 8-69243753
4 8-69243757
4 8-69243761
1260349 8-70504110
cg08225389 49 8-70504159
cg09307412 10145782 8-80649941
cg07583137 1994070 8-82644011
cg05910407 10940824 8-93584835
cg06241915 1522029 8-95106864
30 8-95106894
544153 8-95651047
16 8-95651063
2 8-95651065
20 8-95651085
cg06699564 13 8-95651098
6498671 8-102149769
42 8-102149811
23 8-102149834
cg04835995 3 8-102149837
301099 8-102450936
34 8-102450970
11 8-102450981
cg23314826 9 8-102450990
4 8-102450994
3 8-102450997
cg19882915 60 8-102451057
5 8-102451062
5 8-102451067
9 8-102451076
9 8-102451085
cg11397370 53393 8-102504478
cg18004756 3 8-102504481
16 8-102504497
cg25330243 3 8-102504500
9 8-102504509
11 8-102504520
20 8-102504540
cg07554329 5165237 8-107669777
cg17136799 5 8-107669782
cg26622232 4 8-107669786
2 8-107669788
4 8-107669792
5 8-107669797
15 8-107669812
868 8-107670680
20 8-107670700
54 8-107670754
cg22124775 4 8-107670758
29 8-107670787
11452045 8-119122832
15 8-119122847
23 8-119122870
cg21602557 7 8-119122877
23 8-119122900
3 8-119122903
30 8-119122933
15 8-119122948
4752049 8-123874997
9 8-123875006
15 8-123875021
12 8-123875033
cg00415665 2 8-123875035
16 8-123875051
12 8-123875063
12 8-123875075
3 8-123875078
20 8-123875098
cg19924352 320303 8-124195401
33 8-124195434
5 8-124195439
cg17213048 137421 8-124332860
38 8-124332898
cg16296417 1952544 8-126285442
2720066 8-129005508
cg01765152 17 8-129005525
12 8-129005537
cg17583432 29 8-129005566
16 8-129005582
16 8-129005598
cg15145148 1832914 8-130838512
21 8-130838533
10 8-130838543
34 8-130838577
cg17962854 3742465 8-134581042
1144829 8-135725871
cg09704422 2 8-135725873
13 8-135725886

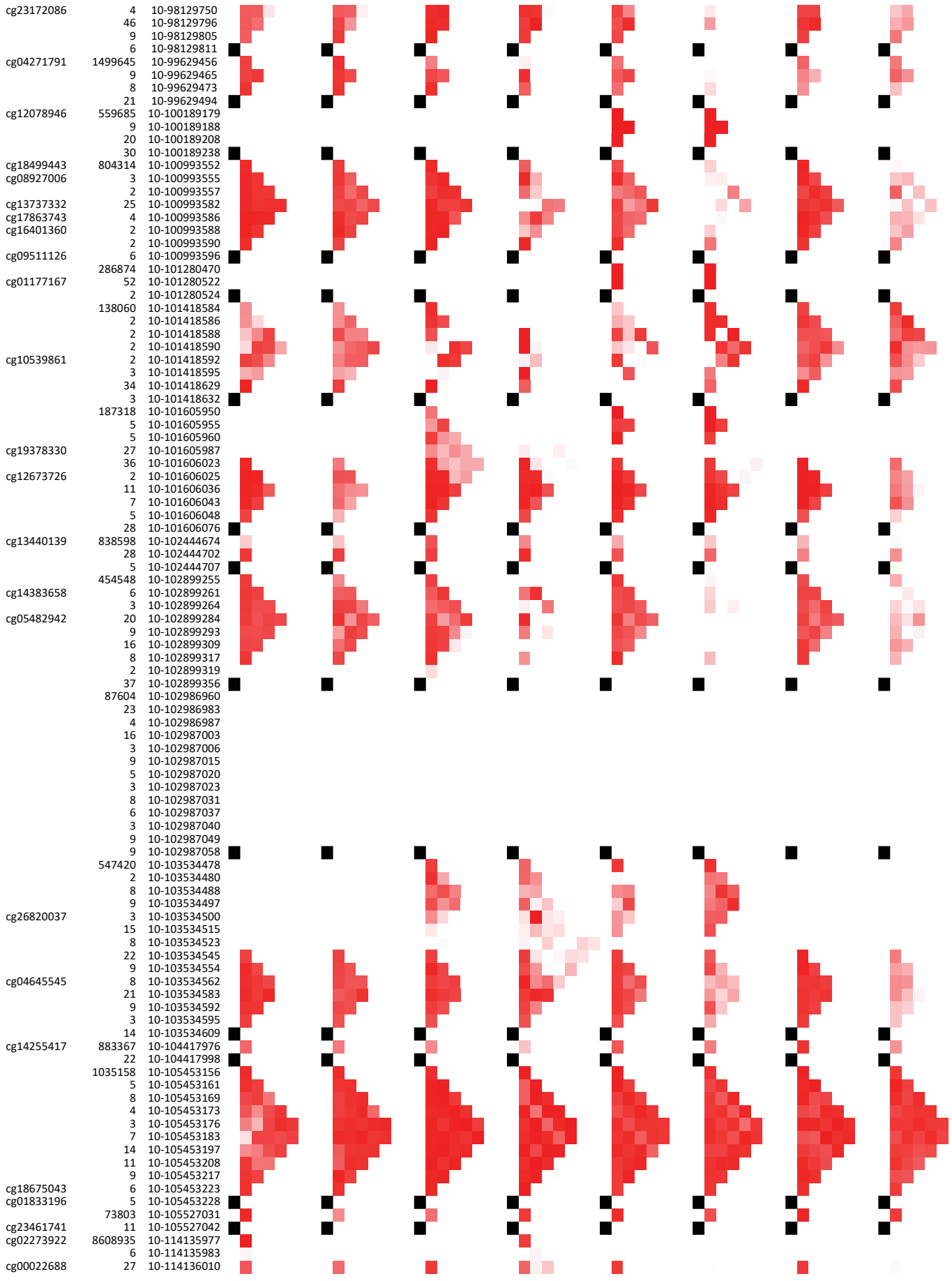

34 8-135725920
5421651 8-141147571
18 8-141147589
6 8-141147595
cg02225988 16 8-141147611
7 8-141147618
10 8-141147628
1035993 8-142183621
3 8-142183624
cg16499923 17 8-142183641
4 8-142183645
17 8-142183662
5 8-142183667
cg19991046 9 8-142183676
5803 8-142189479
4 8-142189483
22 8-142189505
15 8-142189520
7 8-142189527
cg16560824 7 8-142189534
cg18165707 8 8-142189542
28 8-142189570
10 8-142189580
8 8-142189588
cg09946870 11 8-142189599
1064746 8-143254345
8 8-143254353
9 8-143254362
41 8-143254403
cg19035966 4 8-143254407
4 8-143254411
28 8-143254439
cg05423942 3 8-143254442
24 8-143254466
6 8-143254472
302918 8-143557390
37 8-143557427
cg01020421 13 8-143557440
cg15844895 53388 8-143610828
cg02318454 350312 8-143961140
cg09120035 4 8-143961144
7 8-143961151
cg02624298 146866 8-144108017
38 8-144108055
46 8-144108101
308379 8-144416480
cg12188860 4 8-144416484
3 8-144416487
13 8-144416500
17 8-144416517
7 8-144416524
16 8-144416540
cg24974704 160697 8-144577237
8 8-144577245
8 8-144577253
2 8-144577255
2 8-144577257
243371 8-144820628
16 8-144820644
25 8-144820669
3 8-144820672
2 8-144820674
cg21026469 8 8-144820682
cg10355708 797615 8-145618297
10 8-145618307
3 8-145618310
25 8-145618335
9 8-145618344
-141318193 9-4300151
22 9-4300173
7 9-4300180
cg10836809 22 9-4300202
49 9-4300251
4 9-4300255
23228102 9-27528357
15 9-27528372
5 9-27528377
2 9-27528379
14 9-27528393
17 9-27528410
16 9-27528426
3 9-27528429
cg21249376 2 9-27528431
25 9-27528456
22 9-27528478
6 9-27528484
cg14470479 6810918 9-34339402
31918 9-34371320
10 9-34371330
2 9-34371332
14 9-34371346
13 9-34371359
18 9-34371377
cg01327147 2 9-34371379
12 9-34371391
723702 9-35095093
cg13920838 9 9-35095102
cg11825899 749746 9-35844848

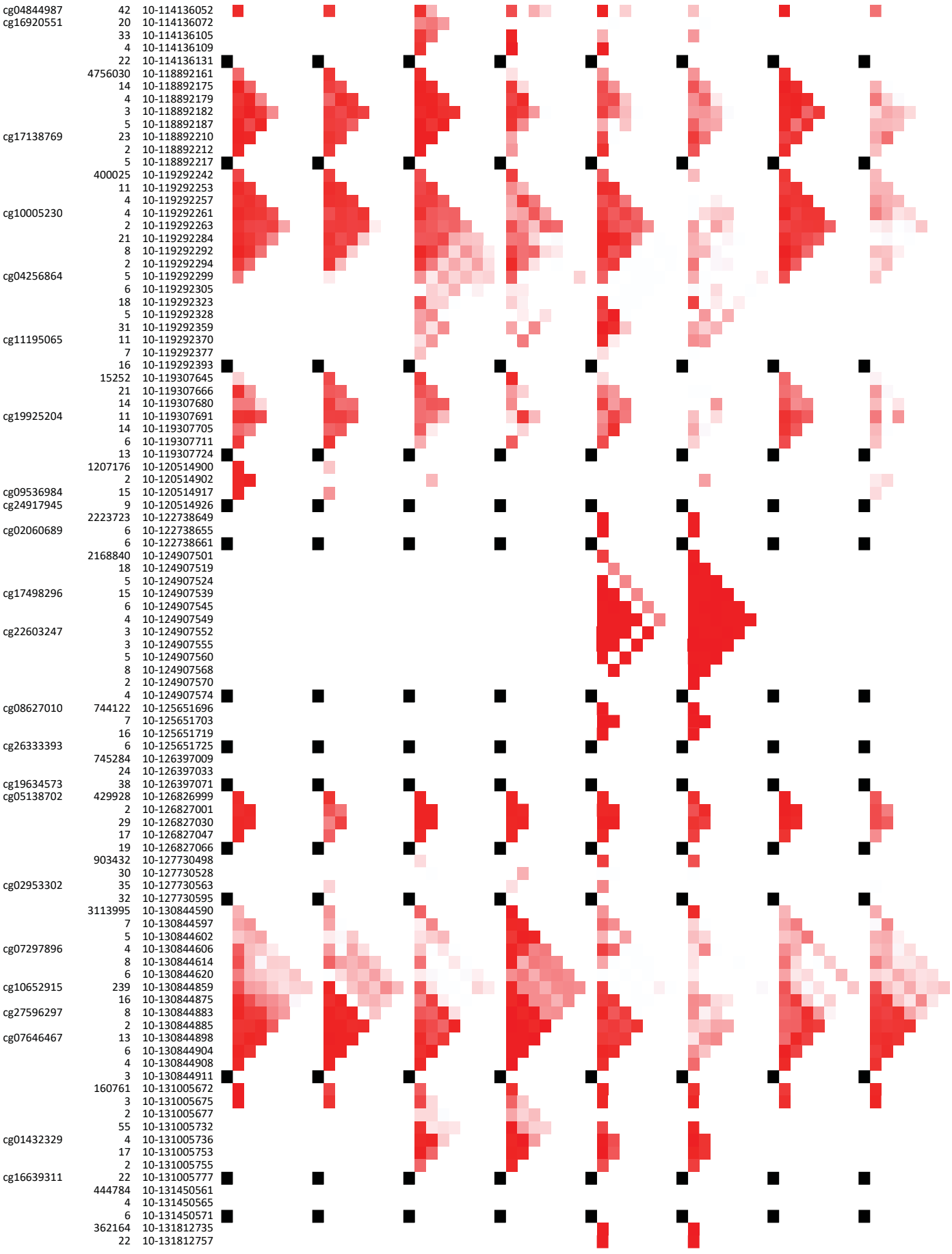

2 9-35844850
2494478 9-38339328
cg14020652 6 9-38339334
32861313 9-71200647
21 9-71200668
cg13410725 8 9-71200676
3 9-71200679
8 9-71200687
587992 9-71788679
7 9-71788686
29 9-71788715
2 9-71788717
9 9-71788726
11 9-71788737
2 9-71788739
cg13651833 8 9-71788747
cg04003500 11 9-71788758
4 9-71788762
43 9-71788805
2 9-71788807
2 9-71788809
2 9-71788811
4 9-71788815
5 9-71788820
7531196 9-79320016
cg13914324 9 9-79320025
317409 9-79637434
4 9-79637438
cg14430542 18 9-79637456
8876690 9-88514146
19 9-88514165
cg13740515 7 9-88514172
3 9-88514175
9 9-88514184
2678962 9-91193146
10 9-91193156
cg13814720 18 9-91193174
cg14210862 20 9-91193194
9 9-91193203
74337 9-91267540
12 9-91267552
21 9-91267573
cg21167335 13 9-91267586
cg14184780 4208164 9-95475750
15 9-95475765
10 9-95475775
cg14341177 11 9-95475786
1893911 9-97369697
9 9-97369706
42 9-97369748
cg13494954 42 9-97369790
4 9-97369794
9 9-97369803
14 9-97369817
6 9-97369823
321974 9-97691797
8 9-97691805
8 9-97691813
cg21189611 30 9-97691843
16 9-97691859
15 9-97691874
29 9-97691903
156536 9-97848439
2 9-97848441
13 9-97848454
cg14601621 2 9-97848456
11 9-97848467
9 9-97848476
5 9-97848481
3 9-97848484
8 9-97848492
15003926 9-112852418
9 9-112852427
5 9-112852432
36 9-112852468
cg14013040 17 9-112852485
17 9-112852502
68 9-112852570
4297833 9-117150403
45 9-117150448
9 9-117150457
cg14080475 37 9-117150494
542361 9-117692855
2 9-117692857
13 9-117692870
8 9-117692878
46 9-117692924
4 9-117692928
cg19343707 25 9-117692953
21 9-117692974
cg24443250 35 9-117693009
cg04761824 212065 9-117905074
73 9-117905147
5932688 9-123837835
cg13822008 9 9-123837844
295176 9-124133020
11 9-124133031
28 9-124133059

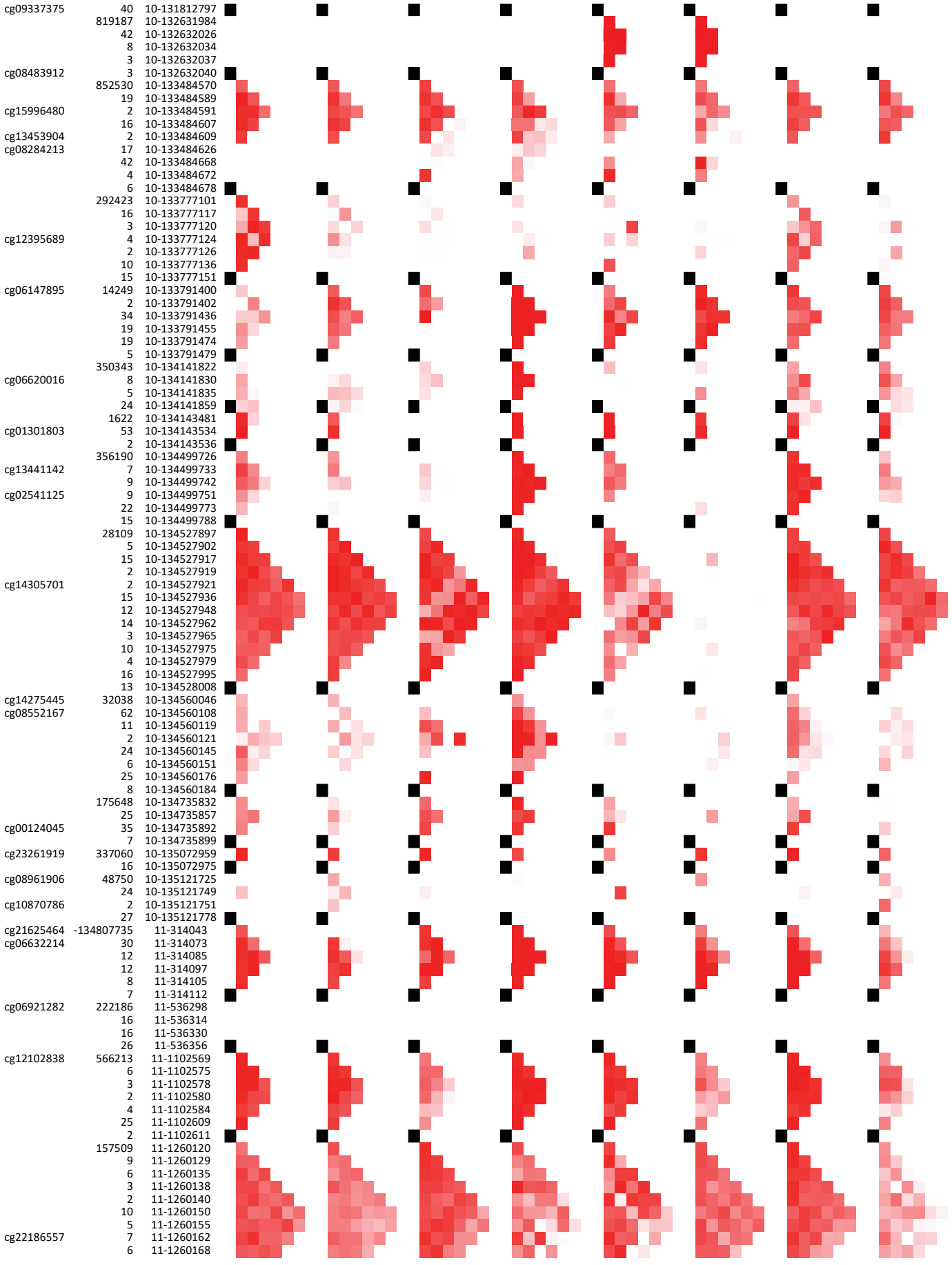

10 9-124133069
3 9-124133072
cg14365564 6 9-124133078
9 9-124133087
cg18676053 6 9-124133093
cg18094907 2644923 9-126778016
4076279 9-130854295
cg11884704 17 9-130854312
8144835 9-138999147
8 9-138999155
8 9-138999163
31 9-138999194
3 9-138999197
10 9-138999207
2 9-138999209
3 9-138999212
cg13857210 4 9-138999216
23 9-138999239
2 9-138999241
22 9-138999263
cg14611112 644087 9-139643350
26 9-139643376
5637 9-139649013
8 9-139649021
14 9-139649035
cg14145338 3 9-139649038
15 9-139649053
15 9-139649068
23 9-139649091
49919 9-139699010
cg14377739 26 9-139699036
14 9-139699050
13 9-139699063
10 9-139699073
3 9-139699076
357521 9-140056597
2 9-140056599
9 9-140056608
2 9-140056610
cg13718729 8 9-140056618
14 9-140056632
7 9-140056639
9 9-140056648
12 9-140056660
362093 9-140418753
11 9-140418764
cg14222990 11 9-140418775
15 9-140418790
13 9-140418803
6 9-140418809
2 9-140418811
cg13979800 50296 9-140469107
7 9-140469114
214006 9-140683120
7 9-140683127
5 9-140683132
20 9-140683152
5 9-140683157
2 9-140683159
11 9-140683170
6 9-140683176
11 9-140683187
2 9-140683189
15 9-140683204
3 9-140683207
cg14459021 4 9-140683211
11 9-140683222
2 9-140683224
11 9-140683235
4 9-140683239
3 9-140683242
6 9-140683248
-140126756 10-556492
cg26511507 55 10-556547
54 10-556601
222071 10-778672
24 10-778696
cg06264868 12 10-778708
11 10-778719
44 10-778763
6 10-778769
11 10-778780
7 10-778787
681690 10-1460477
9 10-1460486
cg14288594 22 10-1460508
17 10-1460525
314317 10-1774842
9 10-1774851
17 10-1774868
cg07162000 4 10-1774872
3 10-1774875
38 10-1774913
3 10-1774916
6 10-1774922
23 10-1774945
9 10-1774954
4 10-1774958

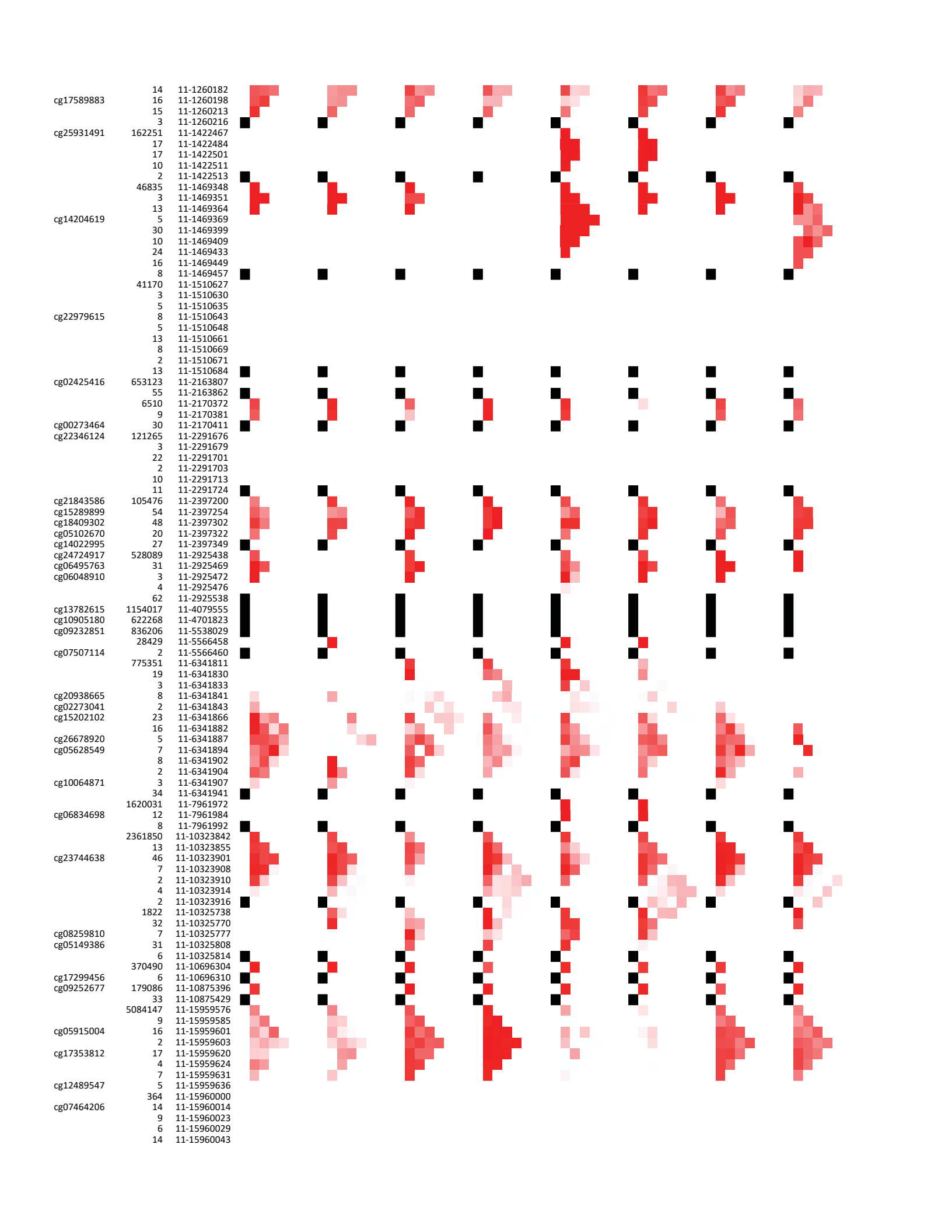

cg05518471 231781 10-2006739
9 10-2006748
16 10-2006764
2 10-2006766
10 10-2006776
4 10-2006780
2 10-2006782
2 10-2006784
3 10-2006787
cg12886862 480362 10-2487149
9 10-2487158
3 10-2487161
cg19374462 18 10-2487179
cg12062156 14 10-2487193
6 10-2487199
289821 10-2777020
10 10-2777030
cg24145118 10 10-2777040
2 10-2777042
22 10-2777064
cg14197503 7 10-2777071
372775 10-3149846
cg14915316 5 10-3149851
30 10-3149881
3 10-3149884
291496 10-3441380
cg05664352 23 10-3441403
7 10-3441410
31 10-3441441
cg13454226 382316 10-3823757
cg23680451 32 10-3823789
10 10-3823799
4 10-3823803
7 10-3823810
7 10-3823817
2 10-3823819
20 10-3823839
cg06048750 4 10-3823843
1312901 10-5136744
cg12530994 37 10-5136781
19 10-5136800
1025374 10-6162174
6 10-6162180
cg06820990 7 10-6162187
2 10-6162189
15 10-6162204
6 10-6162210
cg17566118 1933586 10-8095796
15 10-8095811
cg18187680 13 10-8095824
cg26292521 6 10-8095830
3110925 10-11206755
cg04249706 16 10-11206771
cg25761326 20 10-11206791
cg11482422 21 10-11206812
cg17775621 25 10-11206837
cg26150462 30 10-11206867
cg12178980 2 10-11206869
cg08336287 22 10-11206891
23 10-11206914
cg11832281 4107 10-11211021
cg12656653 2560405 10-13771426
6 10-13771432
8 10-13771440
7 10-13771447
5 10-13771452
cg23873415 12 10-13771464
11 10-13771475
3 10-13771478
10 10-13771488
930263 10-14701751
cg04441857 63 10-14701814
23 10-14701837
cg26080545 473086 10-15174923
18 10-15174941
2041614 10-17216555
cg06351596 53 10-17216608
26696 10-17243304
7 10-17243311
cg11756136 25 10-17243336
9 10-17243345
8 10-17243353
11 10-17243364
3 10-17243367
28551 10-17271918
cg02746869 10 10-17271928
2 10-17271930
3 10-17271933
cg18514820 10 10-17271943
2 10-17271945
12 10-17271957
13 10-17271970
6 10-17271976
cg20319091 17 10-17271993
5350782 10-22622775
6 10-22622781
cg09099868 11 10-22622792
8 10-22622800

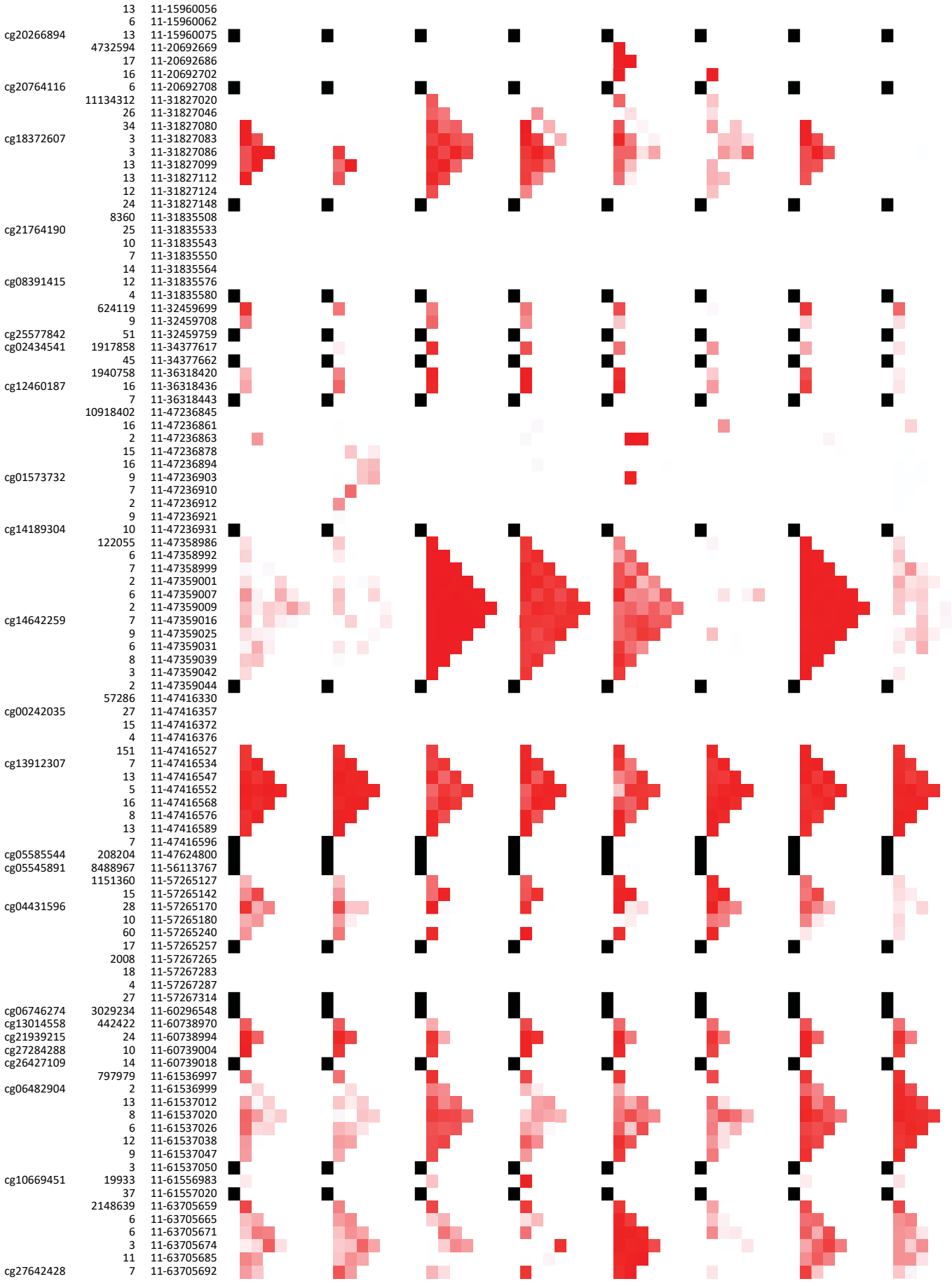

cg18739694 490039 10-23112839
7 10-23112846
14 10-23112860
20 10-23112880
3910261 10-27023141
44 10-27023185
cg04044188 4 10-27023189
31 10-27023220
2 10-27023222
1634001 10-28657223
cg02989244 46 10-28657269
21 10-28657290
cg11019430 439566 10-29096856
2 10-29096858
34 10-29096892
29 10-29096921
14 10-29096935
11 10-29096946
cg13324103 851481 10-29948427
cg20073153 290387 10-30238814
3030779 10-33269593
14 10-33269607
cg02828768 4 10-33269611
15 10-33269626
13 10-33269639
5 10-33269644
12759708 10-46029352
cg15423998 6 10-46029358
3644150 10-49673508
11 10-49673519
6 10-49673525
cg22796704 8 10-49673533
39 10-49673572
10 10-49673582
10598471 10-60272053
7 10-60272060
9 10-60272069
cg09696939 9 10-60272078
7 10-60272085
43 10-60272128
4 10-60272132
4416511 10-64688643
8 10-64688651
30 10-64688681
11 10-64688692
cg08183577 4921100 10-69609792
42 10-69609834
5 10-69609839
cg04838832 2892633 10-72502472
cg08659980 1197315 10-73699787
2 10-73699789
11 10-73699800
5 10-73699805
11 10-73699816
11 10-73699827
3 10-73699830
10 10-73699840
11 10-73699851
cg01452506 414761 10-74114612
14 10-74114626
31 10-74114657
11 10-74114668
2 10-74114670
cg19034132 1577556 10-75692226
43 10-75692269
cg03936104 1472477 10-77164746
38 10-77164784
13 10-77164797
3334 10-77168131
11 10-77168142
2 10-77168144
12 10-77168156
cg24799921 23 10-77168179
15 10-77168194
6 10-77168200
17 10-77168217
5 10-77168222
2768725 10-79936947
cg10809560 11 10-79936958
25 10-79936983
6 10-79936989
cg15602037 12 10-79937001
10 10-79937011
8747005 10-88684016
cg10428836 3 10-88684019
cg09550257 938818 10-89622837
cg07263825 46 10-89622883
cg16686761 21 10-89622904
cg19935065 8439782 10-98062686
17 10-98062703
cg03930857 43 10-98062746
66914 10-98129660
21 10-98129681
13 10-98129694
10 10-98129704
3 10-98129707
26 10-98129733
13 10-98129746

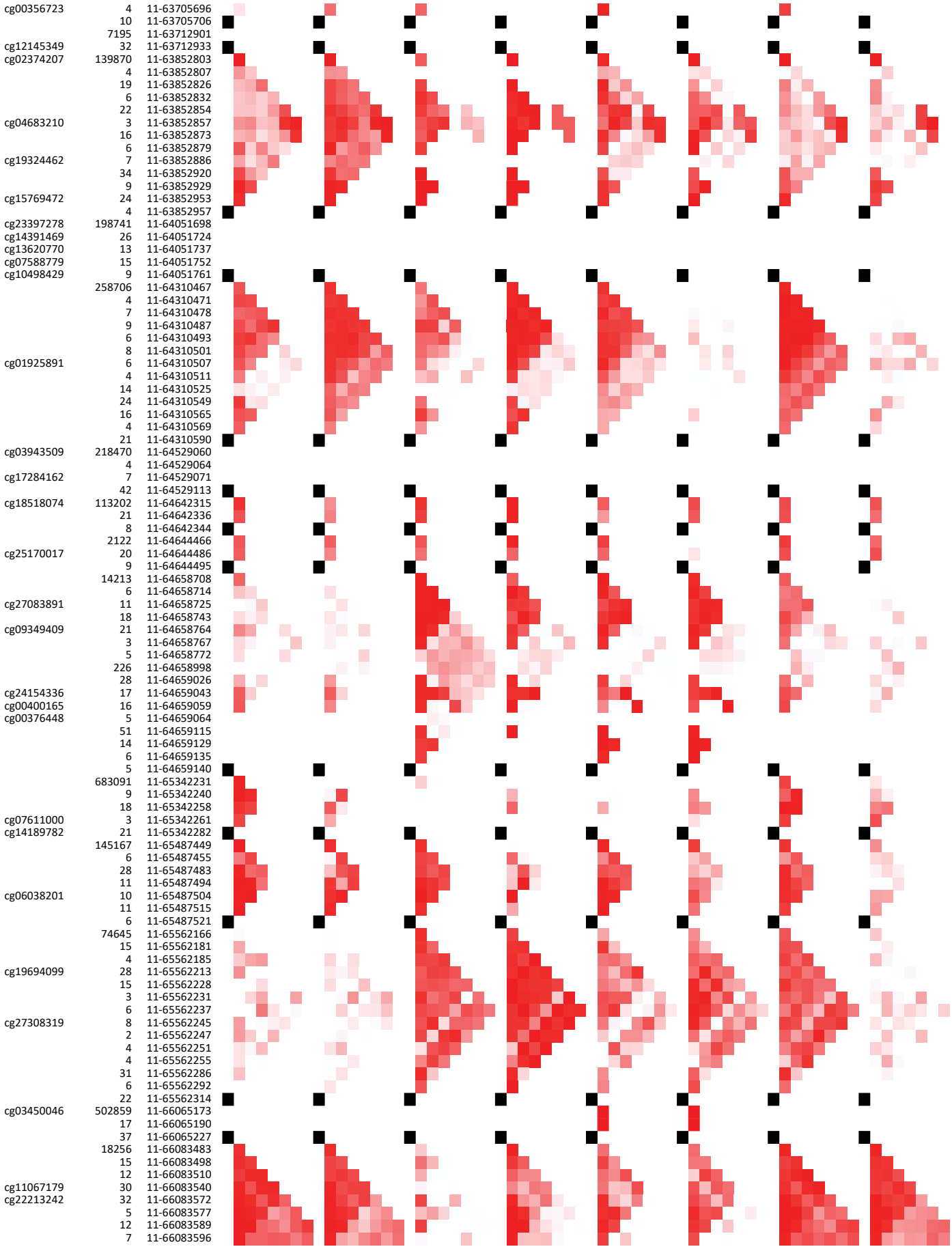

cg23172086 4 10-98129750
46 10-98129796
9 10-98129805
6 10-98129811
cg04271791 1499645 10-99629456
9 10-99629465
8 10-99629473
21 10-99629494
cg12078946 559685 10-100189179
9 10-100189188
20 10-100189208
30 10-100189238
cg18499443 804314 10-100993552
cg08927006 3 10-100993555
2 10-100993557
cg13737332 25 10-100993582
cg17863743 4 10-100993586
cg16401360 2 10-100993588
2 10-100993590
cg09511126 6 10-100993596
286874 10-101280470
cg01177167 52 10-101280522
2 10-101280524
138060 10-101418584
2 10-101418586
2 10-101418588
2 10-101418590
cg10539861 2 10-101418592
3 10-101418595
34 10-101418629
3 10-101418632
187318 10-101605950
5 10-101605955
5 10-101605960
cg19378330 27 10-101605987
36 10-101606023
cg12673726 2 10-101606025
11 10-101606036
7 10-101606043
5 10-101606048
28 10-101606076
cg13440139 838598 10-102444674
28 10-102444702
5 10-102444707
454548 10-102899255
cg14383658 6 10-102899261
3 10-102899264
cg05482942 20 10-102899284
9 10-102899293
16 10-102899309
8 10-102899317
2 10-102899319
37 10-102899356
87604 10-102986960
23 10-102986983
4 10-102986987
16 10-102987003
3 10-102987006
9 10-102987015
5 10-102987020
3 10-102987023
8 10-102987031
6 10-102987037
3 10-102987040
9 10-102987049
9 10-102987058
547420 10-103534478
2 10-103534480
8 10-103534488
9 10-103534497
cg26820037 3 10-103534500
15 10-103534515
8 10-103534523
22 10-103534545
9 10-103534554
cg04645545 8 10-103534562
21 10-103534583
9 10-103534592
3 10-103534595
14 10-103534609
cg14255417 883367 10-104417976
22 10-104417998
1035158 10-105453156
5 10-105453161
8 10-105453169
4 10-105453173
3 10-105453176
7 10-105453183
14 10-105453197
11 10-105453208
9 10-105453217
cg18675043 6 10-105453223
cg01833196 5 10-105453228
73803 10-105527031
cg23461741 11 10-105527042
cg02273922 8608935 10-114135977
6 10-114135983
cg00022688 27 10-114136010

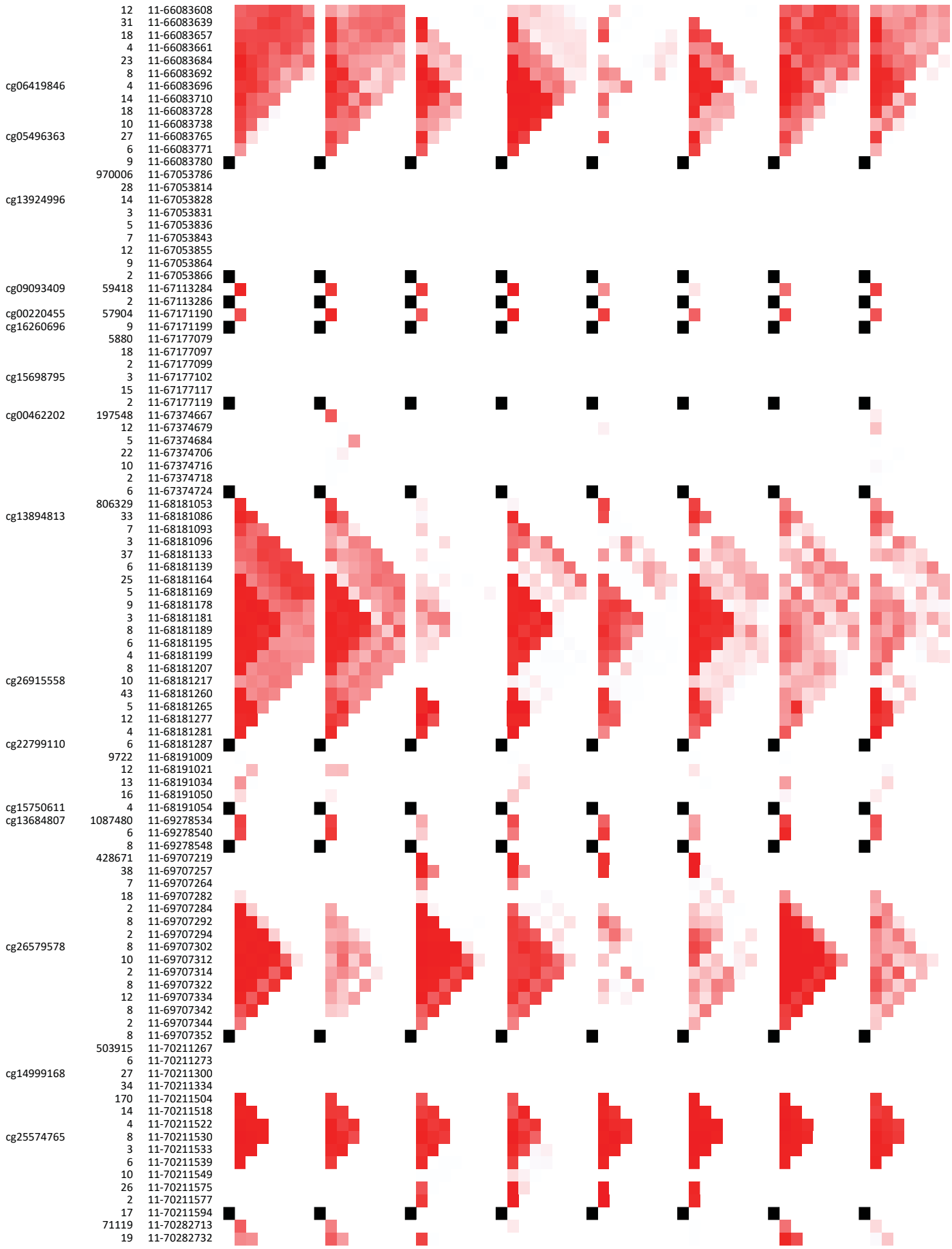

cg04844987 42 10-114136052
cg16920551 20 10-114136072
33 10-114136105
4 10-114136109
22 10-114136131
4756030 10-118892161
14 10-118892175
4 10-118892179
3 10-118892182
5 10-118892187
cg17138769 23 10-118892210
2 10-118892212
5 10-118892217
400025 10-119292242
11 10-119292253
4 10-119292257
cg10005230 4 10-119292261
2 10-119292263
21 10-119292284
8 10-119292292
2 10-119292294
cg04256864 5 10-119292299
6 10-119292305
18 10-119292323
5 10-119292328
31 10-119292359
cg11195065 11 10-119292370
7 10-119292377
16 10-119292393
15252 10-119307645
21 10-119307666
14 10-119307680
cg19925204 11 10-119307691
14 10-119307705
6 10-119307711
13 10-119307724
1207176 10-120514900
2 10-120514902
cg09536984 15 10-120514917
cg24917945 9 10-120514926
2223723 10-122738649
cg02060689 6 10-122738655
6 10-122738661
2168840 10-124907501
18 10-124907519
5 10-124907524
cg17498296 15 10-124907539
6 10-124907545
4 10-124907549
cg22603247 3 10-124907552
3 10-124907555
5 10-124907560
8 10-124907568
2 10-124907570
4 10-124907574
cg08627010 744122 10-125651696
7 10-125651703
16 10-125651719
cg26333393 6 10-125651725
745284 10-126397009
24 10-126397033
cg19634573 38 10-126397071
cg05138702 429928 10-126826999
2 10-126827001
29 10-126827030
17 10-126827047
19 10-126827066
903432 10-127730498
30 10-127730528
cg02953302 35 10-127730563
32 10-127730595
3113995 10-130844590
7 10-130844597
5 10-130844602
cg07297896 4 10-130844606
8 10-130844614
6 10-130844620
cg10652915 239 10-130844859
16 10-130844875
cg27596297 8 10-130844883
2 10-130844885
cg07646467 13 10-130844898
6 10-130844904
4 10-130844908
3 10-130844911
160761 10-131005672
3 10-131005675
2 10-131005677
55 10-131005732
cg01432329 4 10-131005736
17 10-131005753
2 10-131005755
cg16639311 22 10-131005777
444784 10-131450561
4 10-131450565
6 10-131450571
362164 10-131812735
22 10-131812757

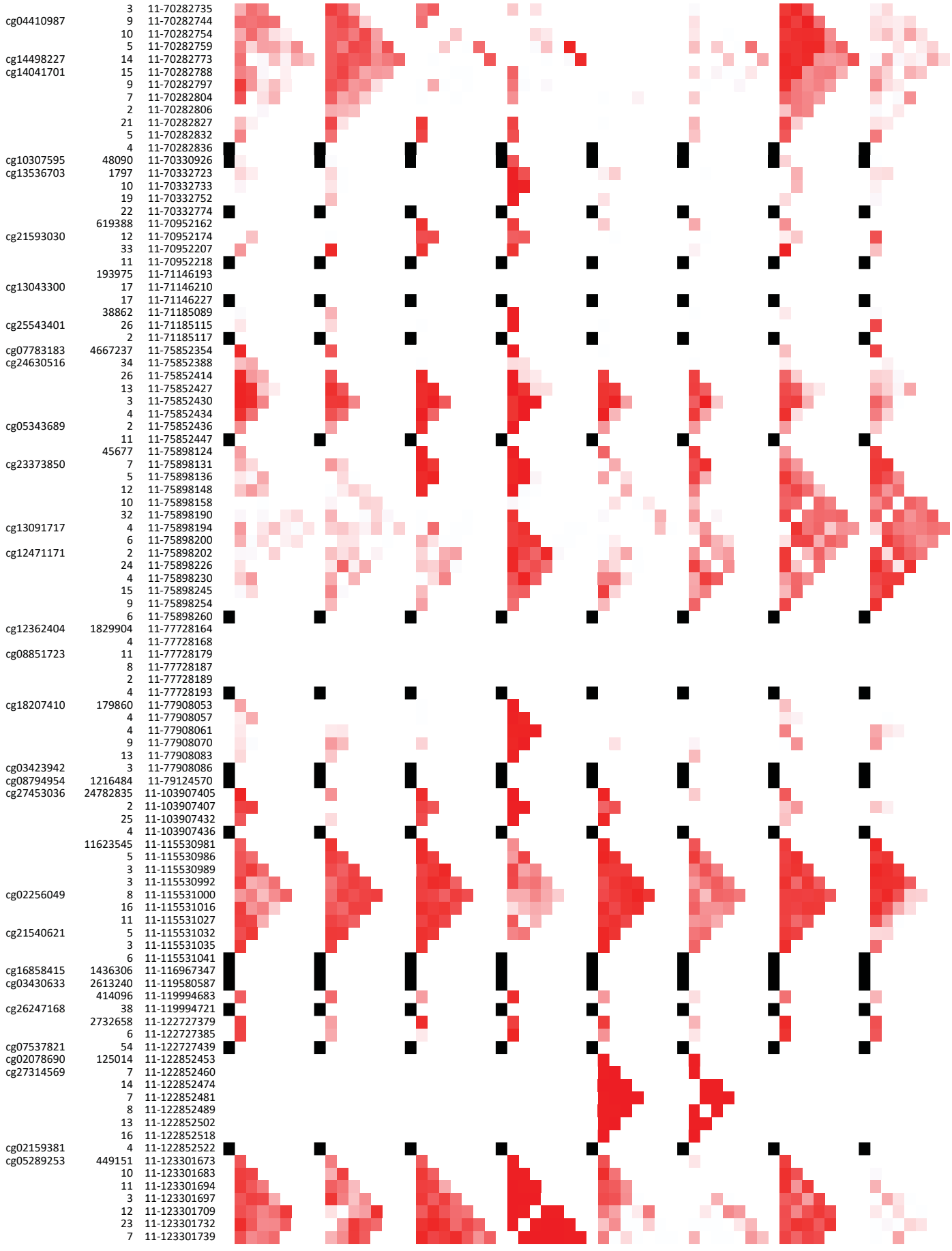

cg09337375 40 10-131812797
819187 10-132631984
42 10-132632026
8 10-132632034
3 10-132632037
cg08483912 3 10-132632040
852530 10-133484570
19 10-133484589
cg15996480 2 10-133484591
16 10-133484607
cg13453904 2 10-133484609
cg08284213 17 10-133484626
42 10-133484668
4 10-133484672
6 10-133484678
292423 10-133777101
16 10-133777117
3 10-133777120
cg12395689 4 10-133777124
2 10-133777126
10 10-133777136
15 10-133777151
cg06147895 14249 10-133791400
2 10-133791402
34 10-133791436
19 10-133791455
19 10-133791474
5 10-133791479
350343 10-134141822
cg06620016 8 10-134141830
5 10-134141835
24 10-134141859
1622 10-134143481
cg01301803 53 10-134143534
2 10-134143536
356190 10-134499726
cg13441142 7 10-134499733
9 10-134499742
cg02541125 9 10-134499751
22 10-134499773
15 10-134499788
28109 10-134527897
5 10-134527902
15 10-134527917
2 10-134527919
cg14305701 2 10-134527921
15 10-134527936
12 10-134527948
14 10-134527962
3 10-134527965
10 10-134527975
4 10-134527979
16 10-134527995
13 10-134528008
cg14275445 32038 10-134560046
cg08552167 62 10-134560108
11 10-134560119
2 10-134560121
24 10-134560145
6 10-134560151
25 10-134560176
8 10-134560184
175648 10-134735832
25 10-134735857
cg00124045 35 10-134735892
7 10-134735899
cg23261919 337060 10-135072959
16 10-135072975
cg08961906 48750 10-135121725
24 10-135121749
cg10870786 2 10-135121751
27 10-135121778
cg21625464 -134807735 11-314043
cg06632214 30 11-314073
12 11-314085
12 11-314097
8 11-314105
7 11-314112
cg06921282 222186 11-536298
16 11-536314
16 11-536330
26 11-536356
cg12102838 566213 11-1102569
6 11-1102575
3 11-1102578
2 11-1102580
4 11-1102584
25 11-1102609
2 11-1102611
157509 11-1260120
9 11-1260129
6 11-1260135
3 11-1260138
2 11-1260140
10 11-1260150
5 11-1260155
cg22186557 7 11-1260162
6 11-1260168

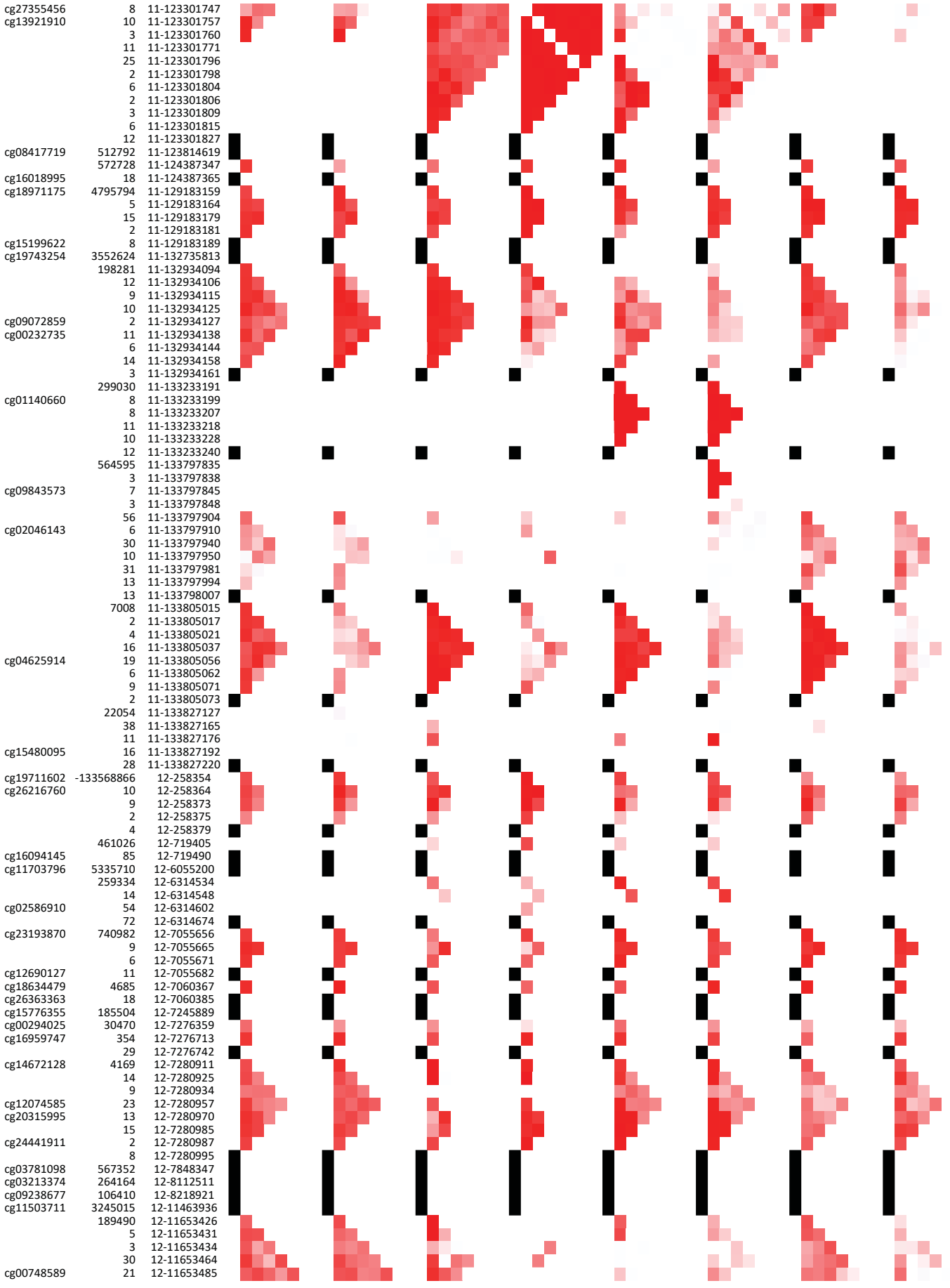


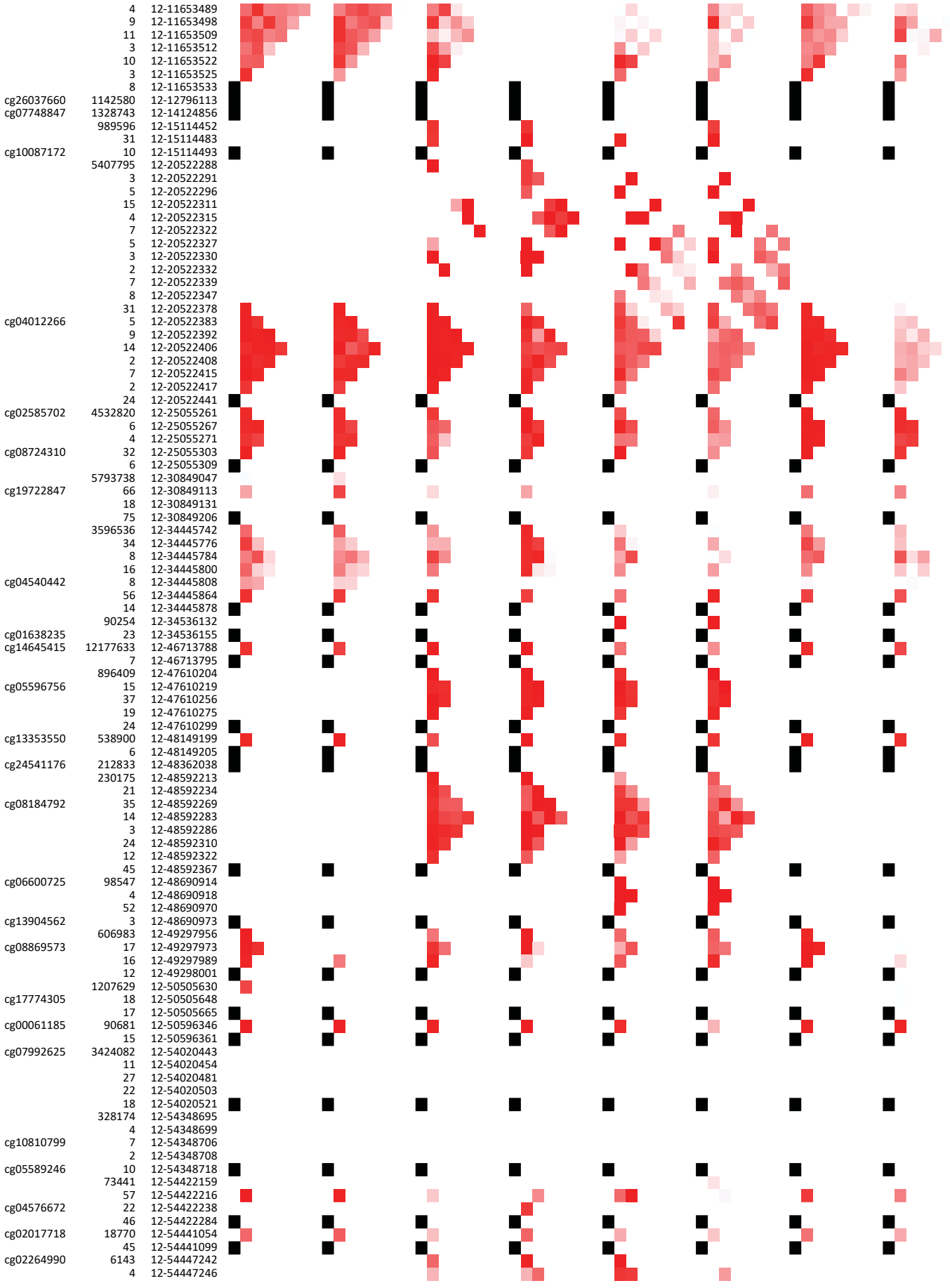

13 11-15960056
6 11-15960062
cg20266894 13 11-15960075
4732594 11-20692669
17 11-20692686
16 11-20692702
cg20764116 6 11-20692708
11134312 11-31827020
26 11-31827046
34 11-31827080
cg18372607 3 11-31827083
3 11-31827086
13 11-31827099
13 11-31827112
12 11-31827124
24 11-31827148
8360 11-31835508
cg21764190 25 11-31835533
10 11-31835543
7 11-31835550
14 11-31835564
cg08391415 12 11-31835576
4 11-31835580
624119 11-32459699
9 11-32459708
cg25577842 51 11-32459759
cg02434541 1917858 11-34377617
45 11-34377662
1940758 11-36318420
cg12460187 16 11-36318436
7 11-36318443
10918402 11-47236845
16 11-47236861
2 11-47236863
15 11-47236878
16 11-47236894
cg01573732 9 11-47236903
7 11-47236910
2 11-47236912
9 11-47236921
cg14189304 10 11-47236931
122055 11-47358986
6 11-47358992
7 11-47358999
2 11-47359001
6 11-47359007
2 11-47359009
cg14642259 7 11-47359016
9 11-47359025
6 11-47359031
8 11-47359039
3 11-47359042
2 11-47359044
57286 11-47416330
cg00242035 27 11-47416357
15 11-47416372
4 11-47416376
151 11-47416527
cg13912307 7 11-47416534
13 11-47416547
5 11-47416552
16 11-47416568
8 11-47416576
13 11-47416589
7 11-47416596
cg05585544 208204 11-47624800
cg05545891 8488967 11-56113767
1151360 11-57265127
15 11-57265142
cg04431596 28 11-57265170
10 11-57265180
60 11-57265240
17 11-57265257
2008 11-57267265
18 11-57267283
4 11-57267287
27 11-57267314
cg06746274 3029234 11-60296548
cg13014558 442422 11-60738970
cg21939215 24 11-60738994
cg27284288 10 11-60739004
cg26427109 14 11-60739018
797979 11-61536997
cg06482904 2 11-61536999
13 11-61537012
8 11-61537020
6 11-61537026
12 11-61537038
9 11-61537047
3 11-61537050
cg10669451 19933 11-61556983
37 11-61557020
2148639 11-63705659
6 11-63705665
6 11-63705671
3 11-63705674
11 11-63705685
cg27642428 7 11-63705692

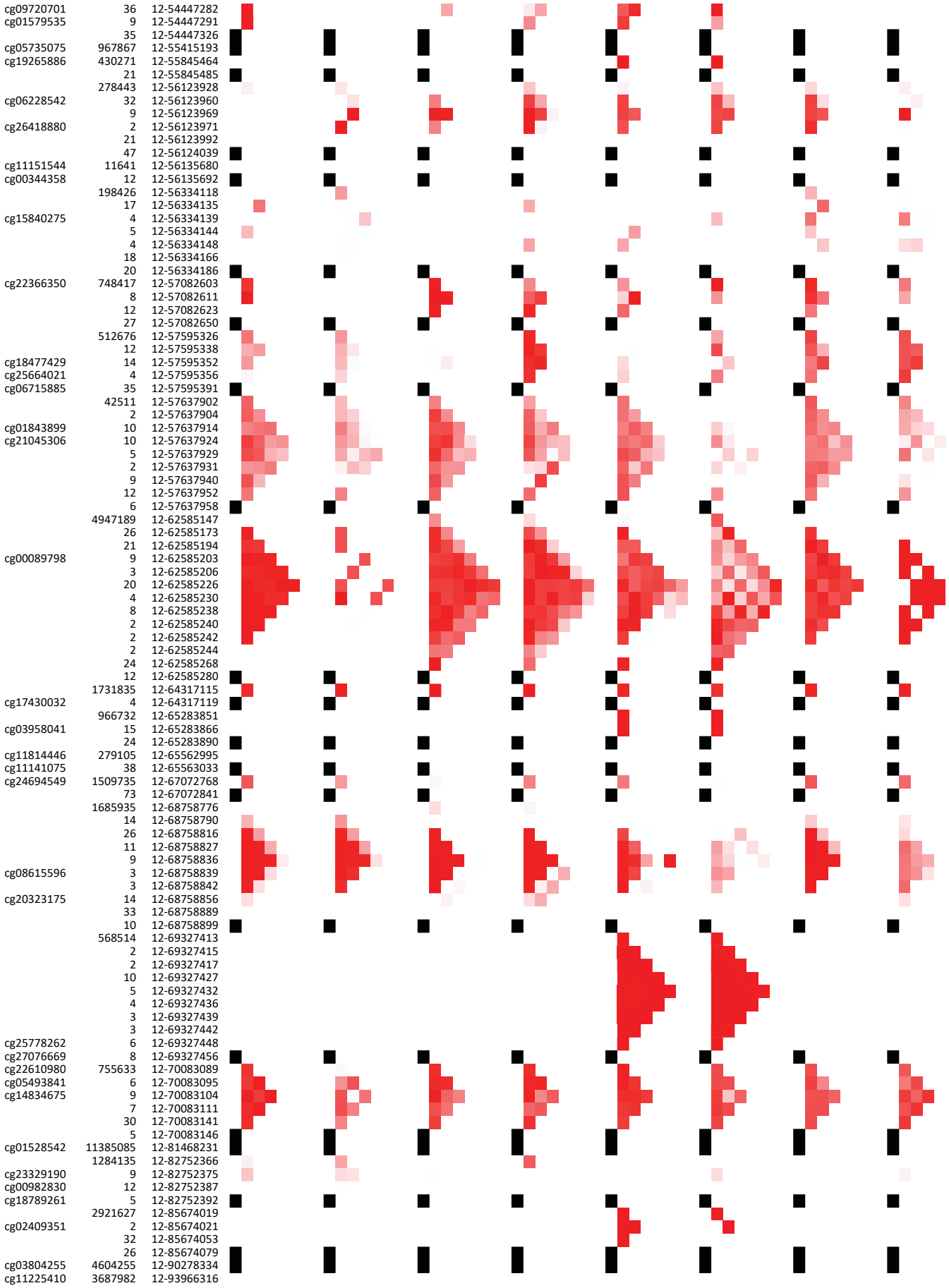

cg00356723 4 11-63705696
10 11-63705706
7195 11-63712901
cg12145349 32 11-63712933
cg02374207 139870 11-63852803
4 11-63852807
19 11-63852826
6 11-63852832
22 11-63852854
cg04683210 3 11-63852857
16 11-63852873
6 11-63852879
cg19324462 7 11-63852886
34 11-63852920
9 11-63852929
cg15769472 24 11-63852953
4 11-63852957
cg23397278 198741 11-64051698
cg14391469 26 11-64051724
cg13620770 13 11-64051737
cg07588779 15 11-64051752
cg10498429 9 11-64051761
258706 11-64310467
4 11-64310471
7 11-64310478
9 11-64310487
6 11-64310493
8 11-64310501
cg01925891 6 11-64310507
4 11-64310511
14 11-64310525
24 11-64310549
16 11-64310565
4 11-64310569
21 11-64310590
cg03943509 218470 11-64529060
4 11-64529064
cg17284162 7 11-64529071
42 11-64529113
cg18518074 113202 11-64642315
21 11-64642336
8 11-64642344
2122 11-64644466
cg25170017 20 11-64644486
9 11-64644495
14213 11-64658708
6 11-64658714
cg27083891 11 11-64658725
18 11-64658743
cg09349409 21 11-64658764
3 11-64658767
5 11-64658772
226 11-64658998
28 11-64659026
cg24154336 17 11-64659043
cg00400165 16 11-64659059
cg00376448 5 11-64659064
51 11-64659115
14 11-64659129
6 11-64659135
5 11-64659140
683091 11-65342231
9 11-65342240
18 11-65342258
cg07611000 3 11-65342261
cg14189782 21 11-65342282
145167 11-65487449
6 11-65487455
28 11-65487483
11 11-65487494
cg06038201 10 11-65487504
11 11-65487515
6 11-65487521
74645 11-65562166
15 11-65562181
4 11-65562185
cg19694099 28 11-65562213
15 11-65562228
3 11-65562231
6 11-65562237
cg27308319 8 11-65562245
2 11-65562247
4 11-65562251
4 11-65562255
31 11-65562286
6 11-65562292
22 11-65562314
cg03450046 502859 11-66065173
17 11-66065190
37 11-66065227
18256 11-66083483
15 11-66083498
12 11-66083510
cg11067179 30 11-66083540
cg22213242 32 11-66083572
5 11-66083577
12 11-66083589
7 11-66083596

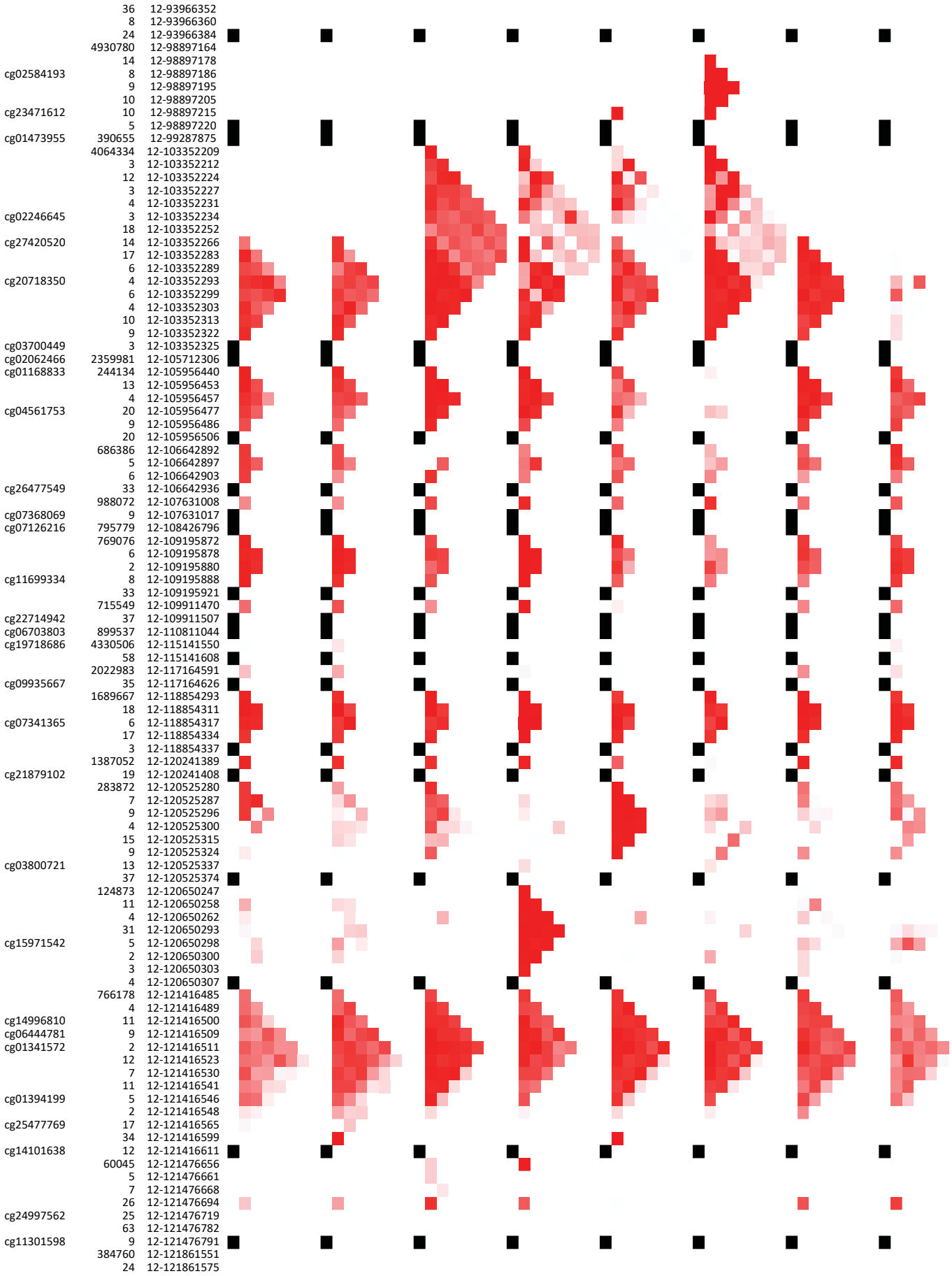

cg06419846
cg05496363
cg13924996
cg09093409
cg00220455
cg16260696
cg15698795
cg00462202
cg13894813
cg26915558
cg22799110
cg15750611
cg13684807
cg26579578
cg14999168
cg25574765

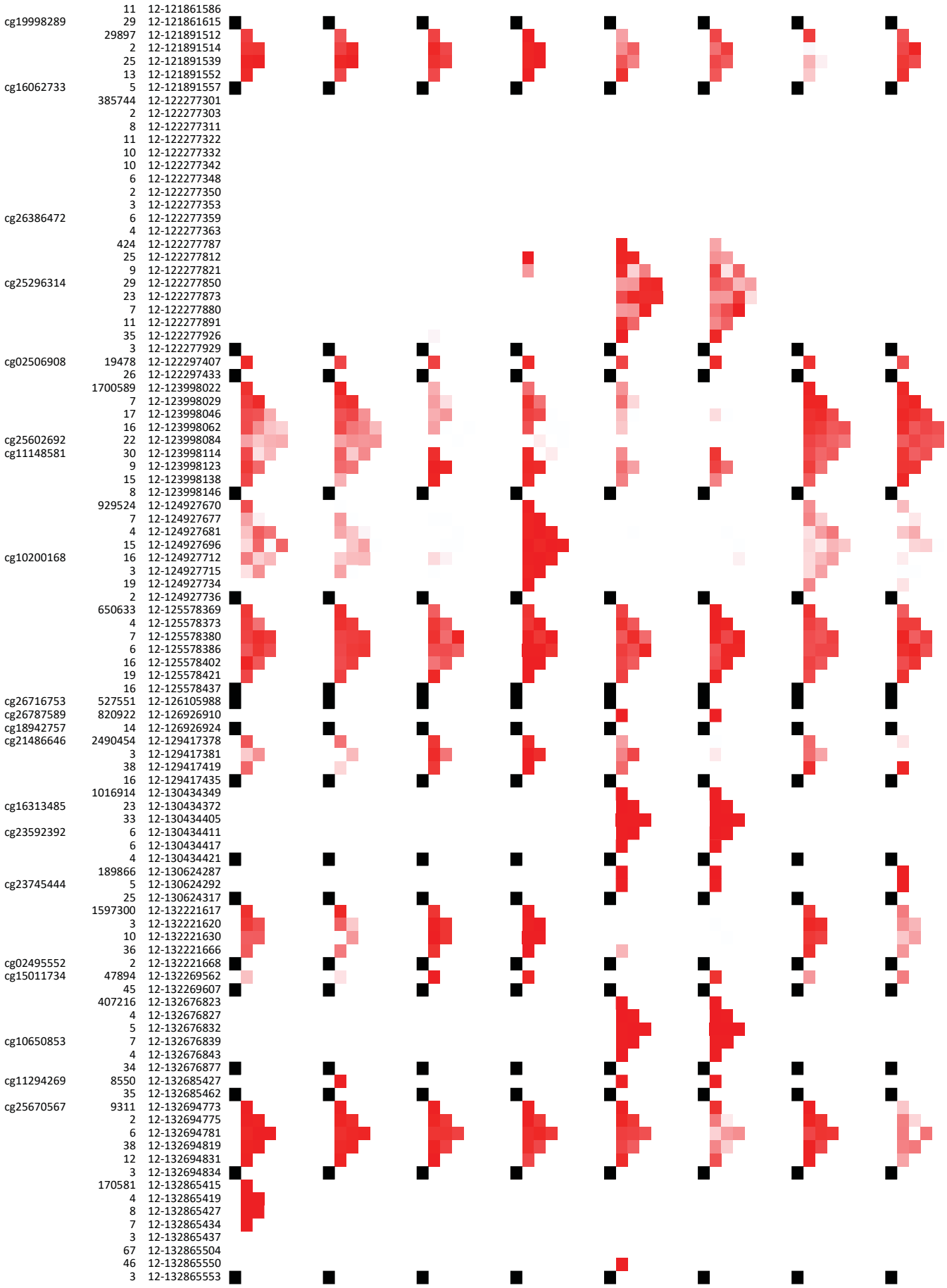

cg04410987
cg14498227
cg14041701
cg10307595
cg13536703
cg21593030
cg13043300
cg25543401
cg07783183
cg24630516
cg05343689
cg23373850
cg13091717
cg12471171
cg12362404
cg08851723
cg18207410
cg03423942
cg08794954
cg27453036
cg02256049
cg21540621
cg16858415
cg03430633
cg26247168
cg07537821
cg02078690
cg27314569
cg02159381
cg05289253
11-70282735
11-70282744
11-70282754
11-70282759
11-70282773
11-70282788
11-70282797
11-70282804
11-70282806
11-70282827
11-70282832
11-70282836
11-70330926
11-70332723
11-70332733
11-70332752
11-70332774
11-70952162
11-70952174
11-70952207
11-70952218
11-71146193
11-71146210
11-71146227
11-71185089
11-71185115
11-71185117
11-75852354
11-75852388
11-75852414
11-75852427
11-75852430
11-75852434
11-75852436
11-75852447
11-75898124
11-75898131
11-75898136
11-75898148
11-75898158
11-75898190
11-75898194
11-75898200
11-75898202
11-75898226
11-75898230
11-75898245
11-75898254
11-75898260
11-77728164
11-77728168
11-77728179
11-77728187
11-77728189
11-77728193
11-77908053
11-77908057
11-77908061
11-77908070
11-77908083
11-77908086
11-79124570
11-103907405
11-103907407
11-103907432
11-103907436
11-115530981
11-115530986
11-115530989
11-115530992
11-115531000
11-115531016
11-115531027
11-115531032
11-115531035
11-115531041
11-116967347
11-119580587
11-119994683
11-119994721
11-122727379
11-122727385
11-122727439
11-122852453
11-122852460
11-122852474
11-122852481
11-122852489
11-122852502
11-122852518
11-122852522
11-123301673
11-123301683
11-123301694
11-123301697
11-123301709
11-123301732
11-123301739

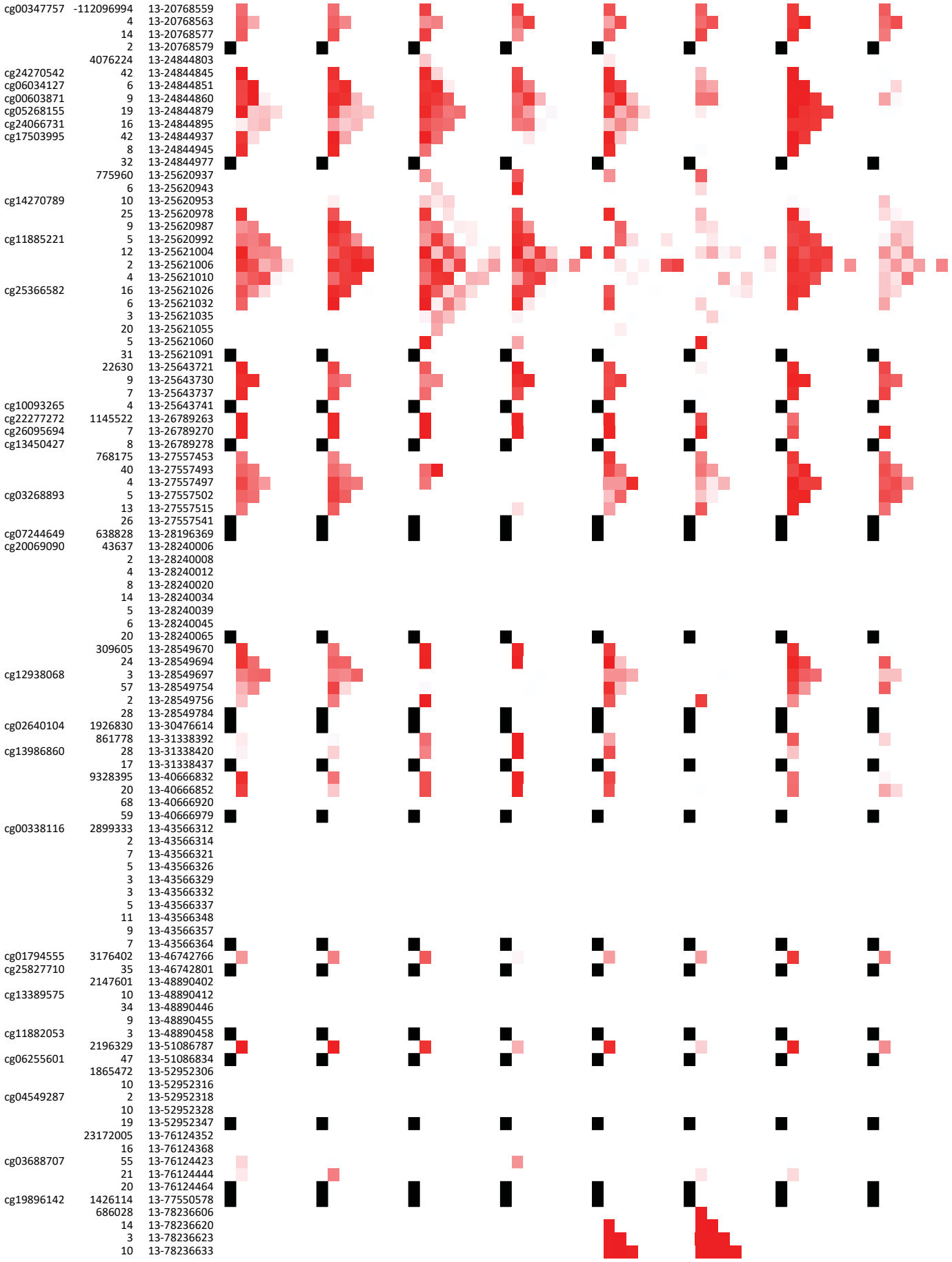



4 12-11653489
9 12-11653498
11 12-11653509
3 12-11653512
10 12-11653522
3 12-11653525
8 12-11653533
cg26037660 1142580 12-12796113
cg07748847 1328743 12-14124856
989596 12-15114452
31 12-15114483
cg10087172 10 12-15114493
5407795 12-20522288
3 12-20522291
5 12-20522296
15 12-20522311
4 12-20522315
7 12-20522322
5 12-20522327
3 12-20522330
2 12-20522332
7 12-20522339
8 12-20522347
31 12-20522378
cg04012266 5 12-20522383
9 12-20522392
14 12-20522406
2 12-20522408
7 12-20522415
2 12-20522417
24 12-20522441
cg02585702 4532820 12-25055261
6 12-25055267
4 12-25055271
cg08724310 32 12-25055303
6 12-25055309
5793738 12-30849047
cg19722847 66 12-30849113
18 12-30849131
75 12-30849206
3596536 12-34445742
34 12-34445776
8 12-34445784
16 12-34445800
cg04540442 8 12-34445808
56 12-34445864
14 12-34445878
90254 12-34536132
cg01638235 23 12-34536155
cg14645415 12177633 12-46713788
7 12-46713795
896409 12-47610204
cg05596756 15 12-47610219
37 12-47610256
19 12-47610275
24 12-47610299
cg13353550 538900 12-48149199
6 12-48149205
cg24541176 212833 12-48362038
230175 12-48592213
21 12-48592234
cg08184792 35 12-48592269
14 12-48592283
3 12-48592286
24 12-48592310
12 12-48592322
45 12-48592367
cg06600725 98547 12-48690914
4 12-48690918
52 12-48690970
cg13904562 3 12-48690973
606983 12-49297956
cg08869573 17 12-49297973
16 12-49297989
12 12-49298001
1207629 12-50505630
cg17774305 18 12-50505648
17 12-50505665
cg00061185 90681 12-50596346
15 12-50596361
cg07992625 3424082 12-54020443
11 12-54020454
27 12-54020481
22 12-54020503
18 12-54020521
328174 12-54348695
4 12-54348699
cg10810799 7 12-54348706
2 12-54348708
cg05589246 10 12-54348718
73441 12-54422159
57 12-54422216
cg04576672 22 12-54422238
46 12-54422284
cg02017718 18770 12-54441054
45 12-54441099
cg02264990 6143 12-54447242
4 12-54447246

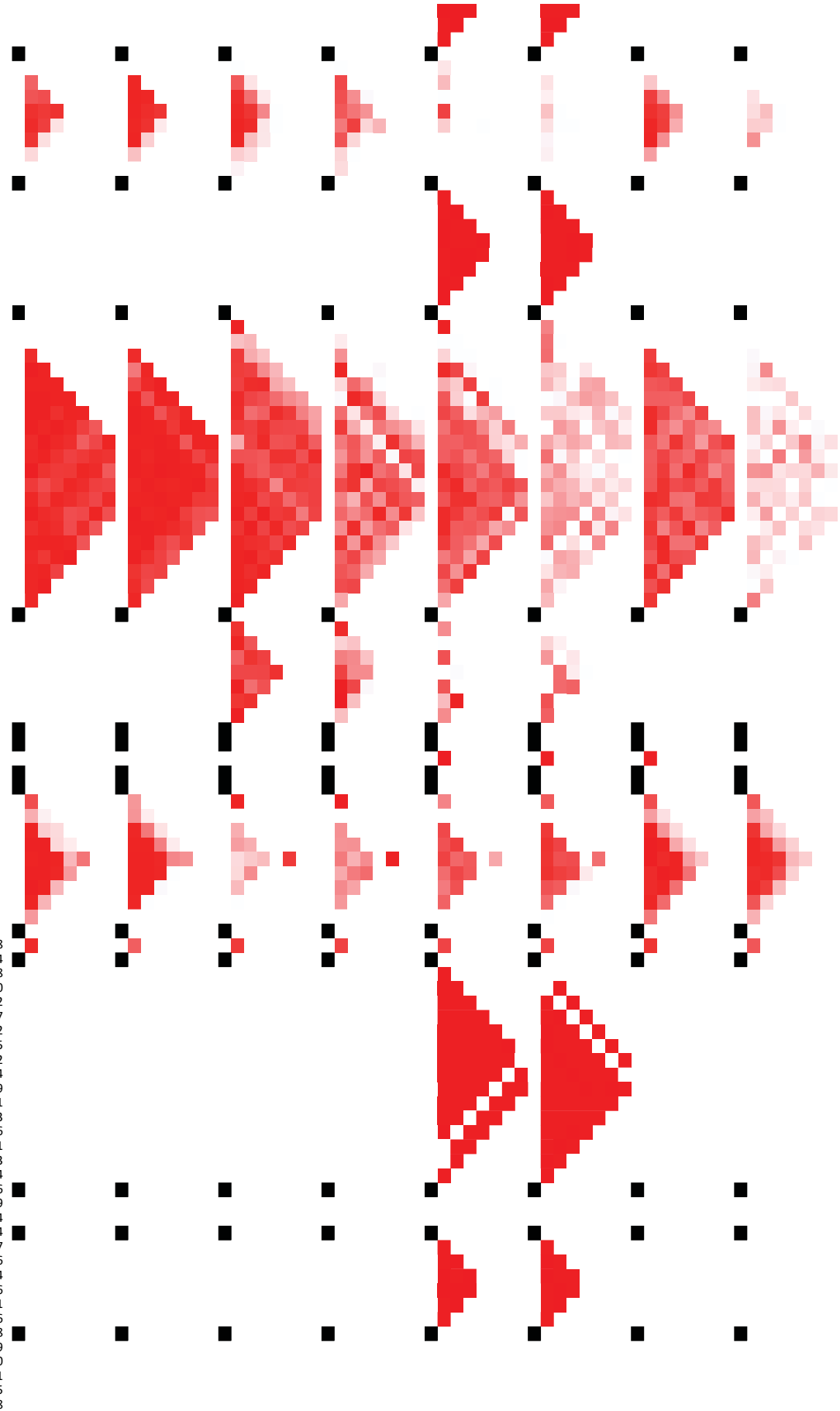

cg09720701 36 12-54447282
cg01579535 9 12-54447291
35 12-54447326
cg05735075 967867 12-55415193
cg19265886 430271 12-55845464
21 12-55845485
278443 12-56123928
cg06228542 32 12-56123960
9 12-56123969
cg26418880 2 12-56123971
21 12-56123992
47 12-56124039
cg11151544 11641 12-56135680
cg00344358 12 12-56135692
198426 12-56334118
17 12-56334135
cg15840275 4 12-56334139
5 12-56334144
4 12-56334148
18 12-56334166
20 12-56334186
cg22366350 748417 12-57082603
8 12-57082611
12 12-57082623
27 12-57082650
512676 12-57595326
12 12-57595338
cg18477429 14 12-57595352
cg25664021 4 12-57595356
cg06715885 35 12-57595391
42511 12-57637902
2 12-57637904
cg01843899 10 12-57637914
cg21045306 10 12-57637924
5 12-57637929
2 12-57637931
9 12-57637940
12 12-57637952
6 12-57637958
4947189 12-62585147
26 12-62585173
21 12-62585194
cg00089798 9 12-62585203
3 12-62585206
20 12-62585226
4 12-62585230
8 12-62585238
2 12-62585240
2 12-62585242
2 12-62585244
24 12-62585268
12 12-62585280
1731835 12-64317115
cg17430032 4 12-64317119
966732 12-65283851
cg03958041 15 12-65283866
24 12-65283890
cg11814446 279105 12-65562995
cg11141075 38 12-65563033
cg24694549 1509735 12-67072768
73 12-67072841
1685935 12-68758776
14 12-68758790
26 12-68758816
11 12-68758827
9 12-68758836
cg08615596 3 12-68758839
3 12-68758842
cg20323175 14 12-68758856
33 12-68758889
10 12-68758899
568514 12-69327413
2 12-69327415
2 12-69327417
10 12-69327427
5 12-69327432
4 12-69327436
3 12-69327439
3 12-69327442
cg25778262 6 12-69327448
cg27076669 8 12-69327456
cg22610980 755633 12-70083089
cg05493841 6 12-70083095
cg14834675 9 12-70083104
7 12-70083111
30 12-70083141
5 12-70083146
cg01528542 11385085 12-81468231
1284135 12-82752366
cg23329190 9 12-82752375
cg00982830 12 12-82752387
cg18789261 5 12-82752392
2921627 12-85674019
cg02409351 2 12-85674021
32 12-85674053
26 12-85674079
cg03804255 4604255 12-90278334
cg11225410 3687982 12-93966316

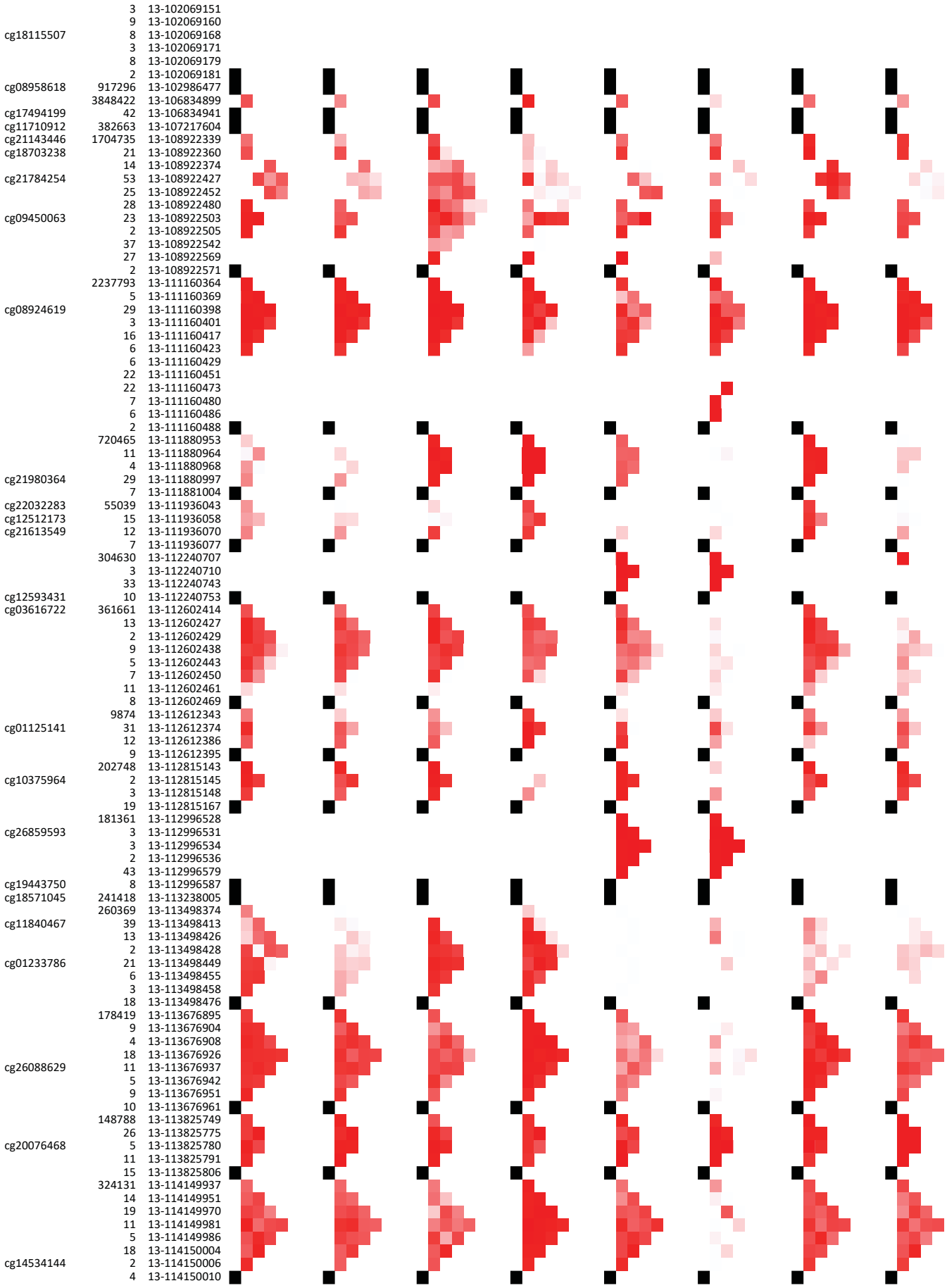

cg02584193
cg23471612
cg01473955
cg02246645
cg27420520
cg20718350
cg03700449
cg02062466
cg01168833
cg04561753
cg26477549
cg07368069
cg07126216
cg11699334
cg22714942
cg06703803
cg19718686
cg09935667
cg07341365
cg21879102
cg03800721
cg15971542
cg14996810
cg06444781
cg01341572
cg01394199
cg25477769
cg14101638
cg24997562
cg11301598


cg19998289
cg16062733
cg26386472
cg25296314
cg02506908
cg25602692
cg11148581
cg10200168
cg26716753
cg26787589
cg18942757
cg21486646
cg16313485
cg23592392
cg23745444
cg02495552
cg15011734
cg10650853
cg11294269
cg25670567

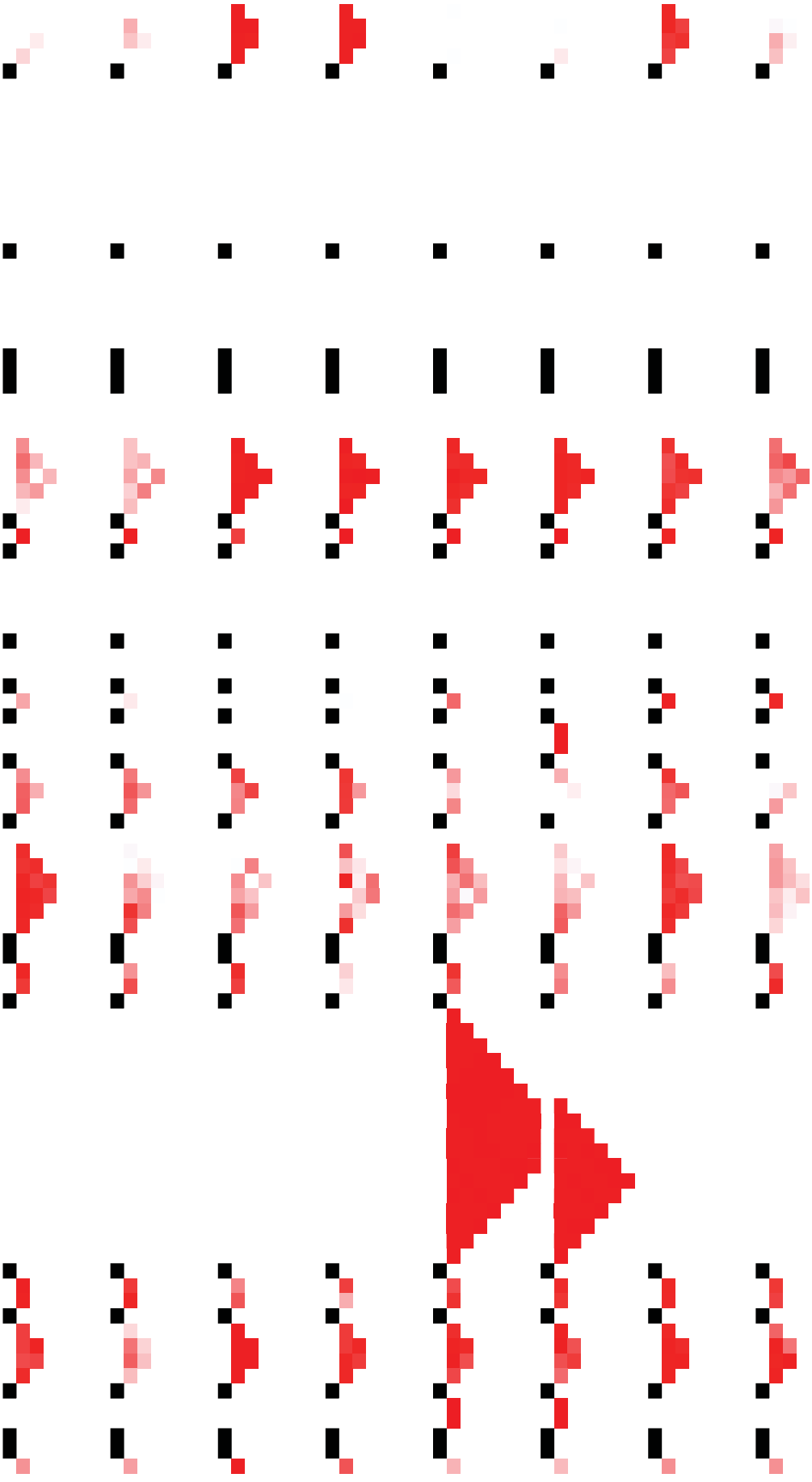

cg00347757 -112096994 13-20768559
4 13-20768563
14 13-20768577
2 13-20768579
4076224 13-24844803
cg24270542 42 13-24844845
cg06034127 6 13-24844851
cg00603871 9 13-24844860
cg05268155 19 13-24844879
cg24066731 16 13-24844895
cg17503995 42 13-24844937
8 13-24844945
32 13-24844977
775960 13-25620937
6 13-25620943
cg14270789 10 13-25620953
25 13-25620978
9 13-25620987
cg11885221 5 13-25620992
12 13-25621004
2 13-25621006
4 13-25621010
cg25366582 16 13-25621026
6 13-25621032
3 13-25621035
20 13-25621055
5 13-25621060
31 13-25621091
22630 13-25643721
9 13-25643730
7 13-25643737
cg10093265 4 13-25643741
cg22277272 1145522 13-26789263
cg26095694 7 13-26789270
cg13450427 8 13-26789278
768175 13-27557453
40 13-27557493
4 13-27557497
cg03268893 5 13-27557502
13 13-27557515
26 13-27557541
cg07244649 638828 13-28196369
cg20069090 43637 13-28240006
2 13-28240008
4 13-28240012
8 13-28240020
14 13-28240034
5 13-28240039
6 13-28240045
20 13-28240065
309605 13-28549670
24 13-28549694
cg12938068 3 13-28549697
57 13-28549754
2 13-28549756
28 13-28549784
cg02640104 1926830 13-30476614
861778 13-31338392
cg13986860 28 13-31338420
17 13-31338437
9328395 13-40666832
20 13-40666852
68 13-40666920
59 13-40666979
cg00338116 2899333 13-43566312
2 13-43566314
7 13-43566321
5 13-43566326
3 13-43566329
3 13-43566332
5 13-43566337
11 13-43566348
9 13-43566357
7 13-43566364
cg01794555 3176402 13-46742766
cg25827710 35 13-46742801
2147601 13-48890402
cg13389575 10 13-48890412
34 13-48890446
9 13-48890455
cg11882053 3 13-48890458
2196329 13-51086787
cg06255601 47 13-51086834
1865472 13-52952306
10 13-52952316
cg04549287 2 13-52952318
10 13-52952328
19 13-52952347
23172005 13-76124352
16 13-76124368
cg03688707 55 13-76124423
21 13-76124444
20 13-76124464
cg19896142 1426114 13-77550578
686028 13-78236606
14 13-78236620
3 13-78236623
10 13-78236633

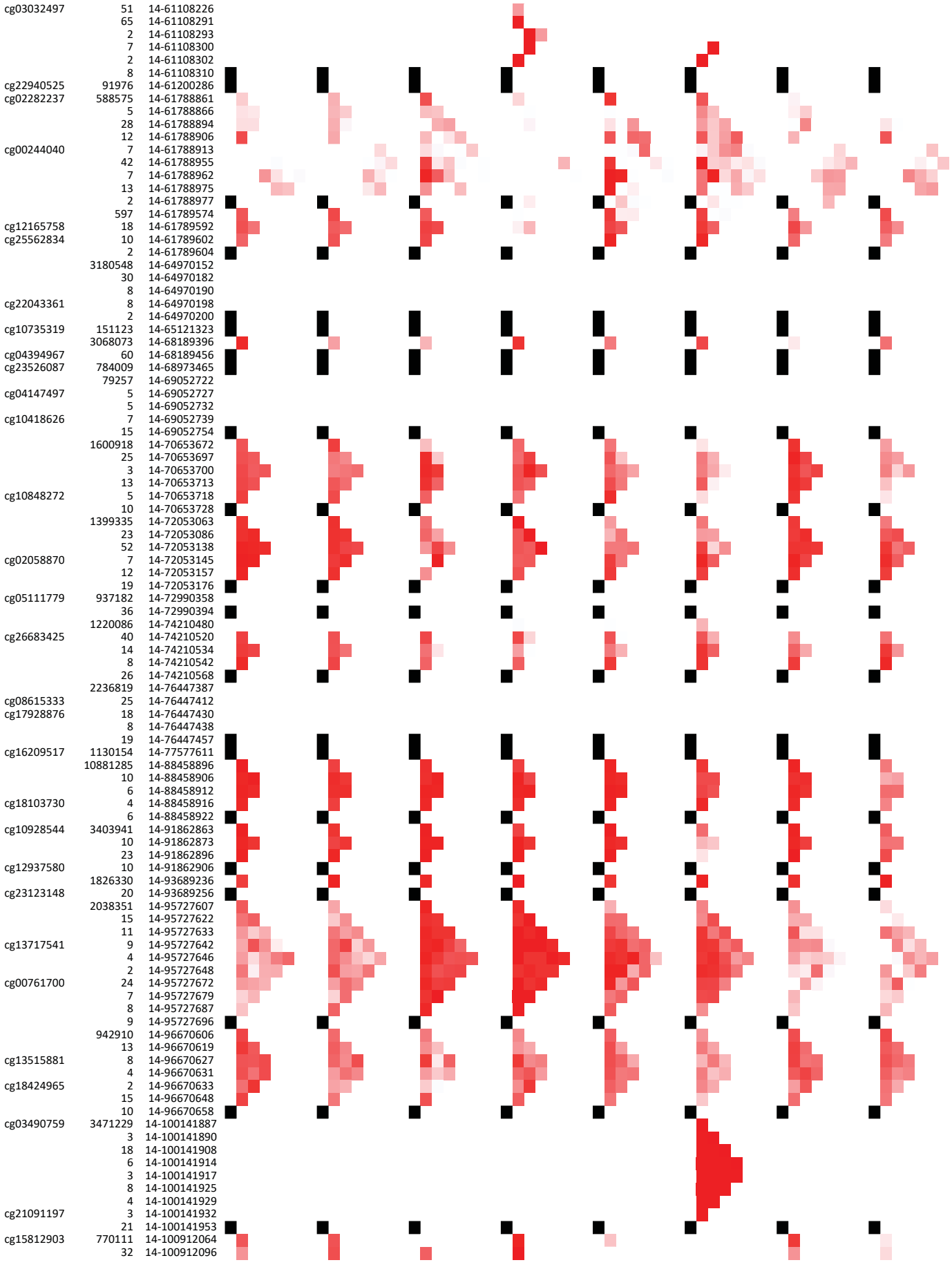
cg10767312	11	13-78236644
	13	13-78236657
	21	13-78236678
	9	13-78236687
cg12935136	256902	13-78493589
cg25717994	41	13-78493630
cg09152886	20	13-78493650
cg02147695	6	13-78493656
cg22541679	9	13-78493665
cg23494140	5	13-78493670
	5	13-78493675
cg07035515	28	13-78493703
cg18568990	8	13-78493711
	682801	13-79176512
	12	13-79176524
	12	13-79176536
	6	13-79176542
	5	13-79176547
	10	13-79176557
	9	13-79176566
cg14123923	5	13-79176571
	4	13-79176575
	886	13-79177461
cg01994205	5	13-79177466
	29	13-79177495
	8	13-79177503
	2	13-79177505
cg08097882	10	13-79177515
cg24425021	4	13-79177519
	3	13-79177522
	9	13-79177531
	11	13-79177542
	13	13-79177555
	2	13-79177557
	3	13-79177560
	4	13-79177564
	2	13-79177566
	3	13-79177569
	7	13-79177576
	3	13-79177579
	6	13-79177585
	3	13-79177588
	2	13-79177590
	9147725	13-88325315
	9	13-88325324
	5	13-88325329
	24	13-88325353
cg07710481	30	13-88325383
	9	13-88325392
	47	13-88325439
	6	13-88325445
cg07641807	3676513	13-92001958
	1899956	13-93901914
cg25866212	58	13-93901972
	1453548	13-95355520
	3514102	13-98869622
	8	13-98869630
	66	13-98869696
	3	13-98869699
cg05194316	6	13-98869705
	4	13-98869709
	3	13-98869712
	3	13-98869715
	27	13-98869742
	28	13-98869770
	1215648	13-100085418
cg20012607	36	13-100085454
cg24259244	538824	13-100624278
cg05617469	2	13-100624280
	2	13-100624282
cg00529958	5	13-100624287
cg24136205	5	13-100624292
	13	13-100624305
	7	13-100624312
	2	13-100624314
	5	13-100624319
	2	13-100624321
	2	13-100624323
	3	13-100624326
	5	13-100624331
	2	13-100624333
	11	13-100624344
	2	13-100624346
	2823	13-100627169
cg25845367	5	13-100627174
	30	13-100627204
	14093	13-100641297
cg06654537	19	13-100641316
	18	13-100641334
	2	13-100641336
	5	13-100641341
	5	13-100641346
	12	13-100641358
	1427751	13-102069109
	11	13-102069120
cg01105058	11	13-102069131
	14	13-102069145
	3	13-102069148

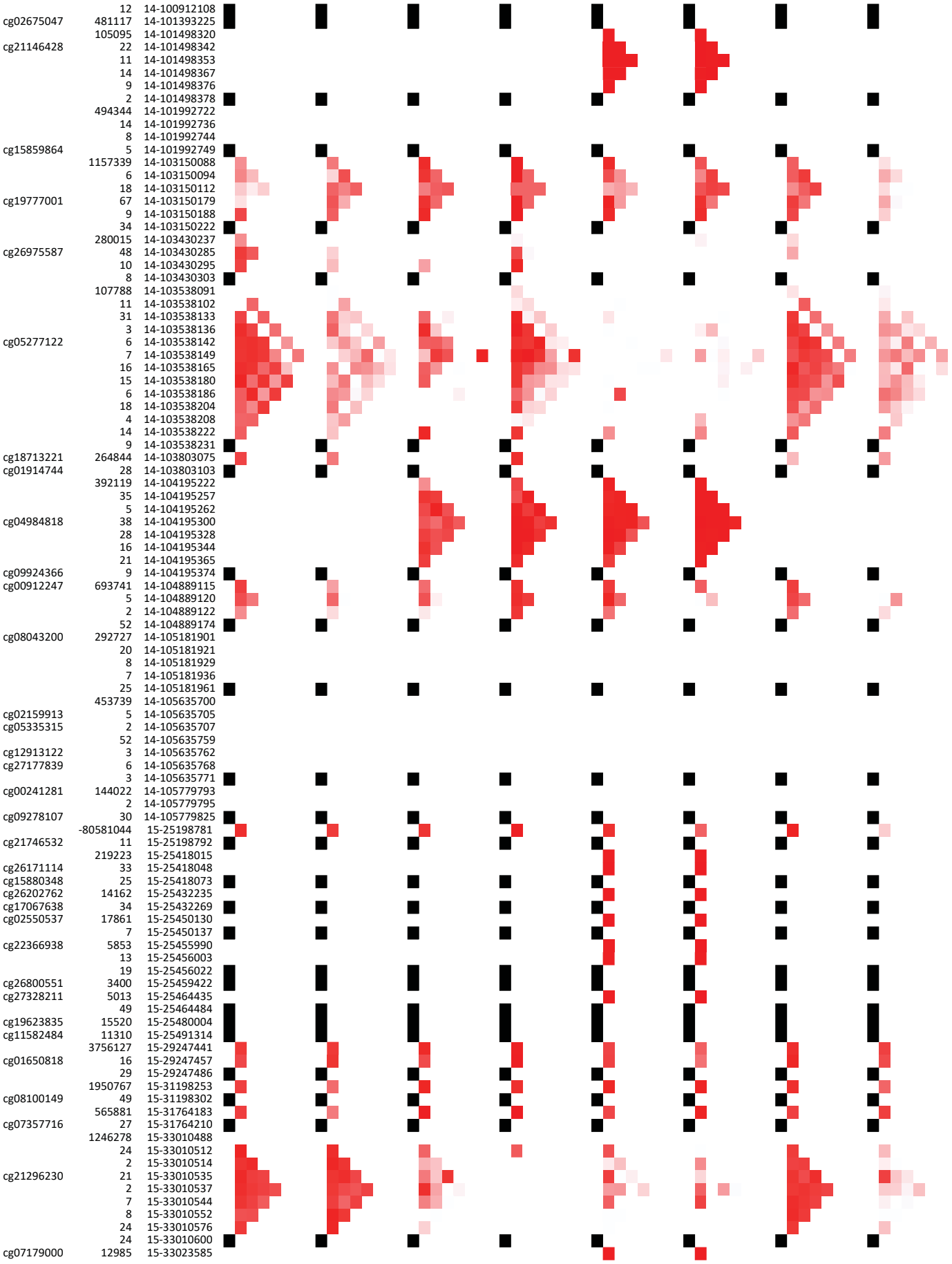


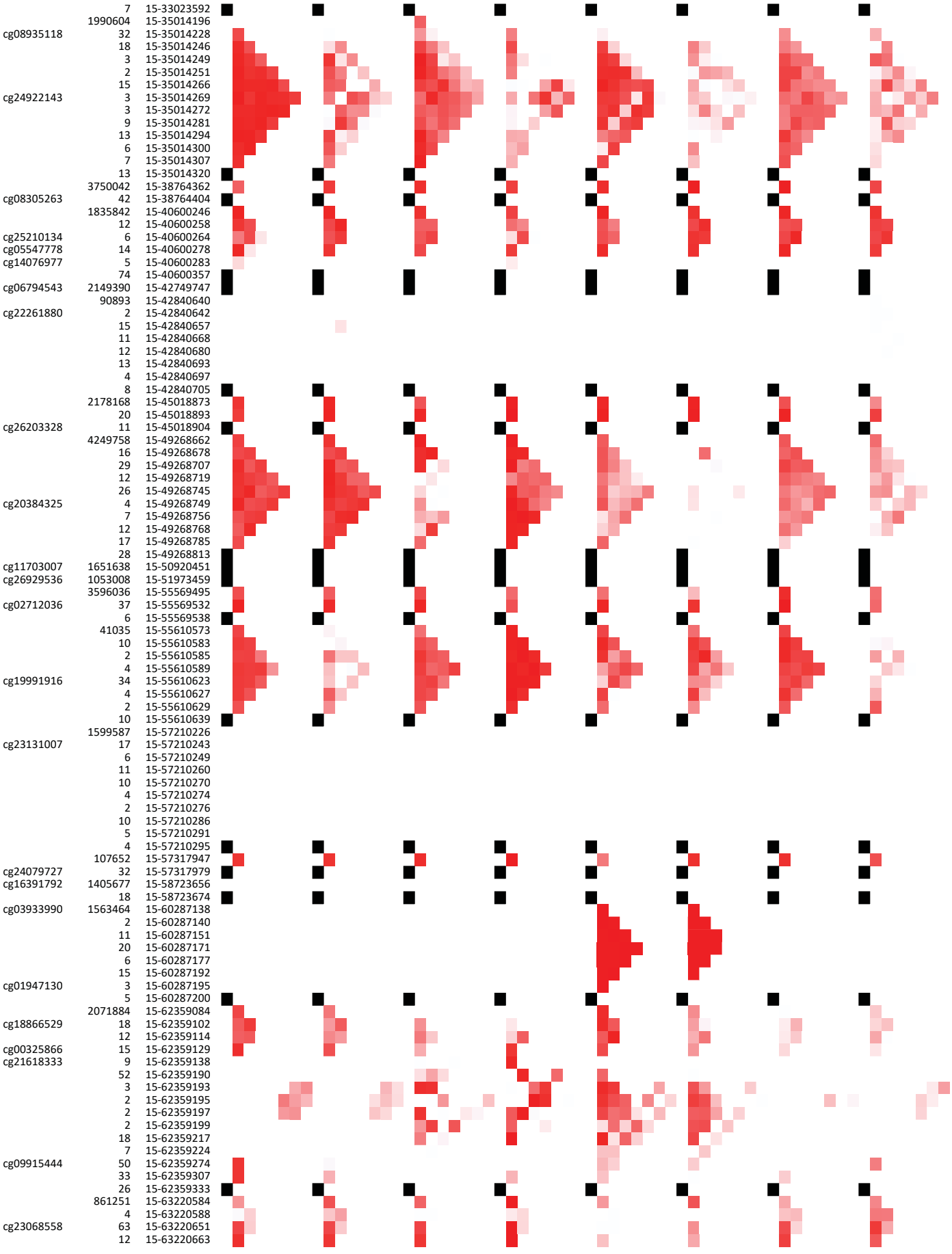

cg18115507
cg08958618
cg17494199
cg11710912
cg21143446
cg18703238
cg21784254
cg09450063
cg08924619
cg21980364
cg22032283
cg12512173
cg21613549
cg12593431
cg03616722
cg01125141
cg10375964
cg26859593
cg19443750
cg18571045
cg11840467
cg01233786
cg26088629
cg20076468
cg14534144

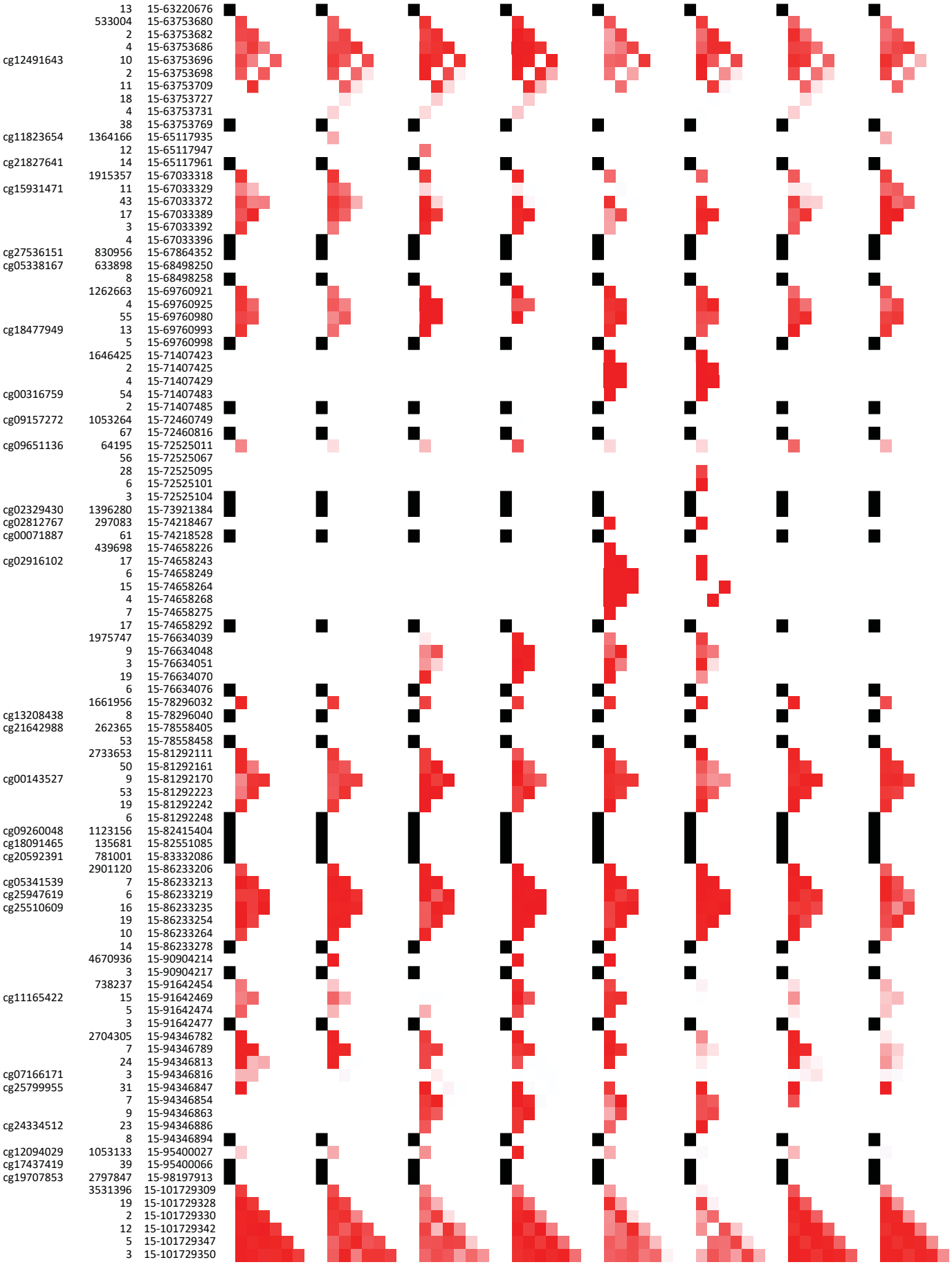
	39907	13-114189917
	5	13-114189922
cg12947224	22	13-114189944
	13	13-114189957
	9	13-114189966
	12768	13-114202734
	4	13-114202738
cg24121069	2	13-114202740
	7	13-114202747
	4	13-114202751
	10	13-114202761
	22	13-114202783
	2	13-114202785
	5	13-114202790
	7	13-114202797
	4	13-114202801
	5	13-114202806
cg06727233	723882	13-114926688
	8	13-114926696
	9	13-114926705
	18	13-114926723
	7	13-114926730
	4	13-114926734
	2	13-114926736
cg00980698	-93676228	14-21250508
cg07311759	373295	14-21623803
	1667038	14-23290841
	27	14-23290868
	26	14-23290894
	184	14-23291078
cg16341690	11	14-23291089
	3	14-23291092
	11	14-23291103
	20	14-23291123
	2	14-23291125
cg23691743	497581	14-23788706
	61	14-23788767
	45988	14-23834755
	24	14-23834779
	3	14-23834782
	6	14-23834788
cg17606785	19	14-23834807
	12	14-23834819
cg18299578	5401108	14-29235927
cg04525757	45	14-29235972
cg19714132	11	14-29235983
cg14078377	6172705	14-35408688
	11	14-35408699
	1332925	14-36741624
cg23662713	20	14-36741644
	9	14-36741653
	244242	14-36985895
	16	14-36985911
	13	14-36985924
	14	14-36985938
cg21263122	1691156	14-38677094
	60	14-38677154
cg04346113	10	14-38677164
	7	14-38677171
	8	14-38677179
	31	14-38677210
	4	14-38677214
cg27590397	3	14-38677217
cg05309989	11850654	14-50527871
cg24101049	1785765	14-52313636
	15	14-52313651
	18	14-52313669
	421354	14-52735023
cg19716643	2	14-52735025
	19	14-52735044
	9	14-52735053
	15	14-52735068
	30	14-52735098
cg18693395	322	14-52735420
	4	14-52735424
	2	14-52735426
	6	14-52735432
	5	14-52735437
	14	14-52735451
	5	14-52735456
	9	14-52735465
	2	14-52735467
	3	14-52735470
	7	14-52735477
cg27634876	7	14-52735484
	2911972	14-55647456
cg23678254	14	14-55647470
	3	14-55647473
	118010	14-55765483
	12	14-55765495
	18	14-55765513
	2	14-55765515
	20	14-55765535
	1513927	14-57279462
	15	14-57279477
cg12152002	18	14-57279495
	3339150	14-60618645
	489530	14-61108175

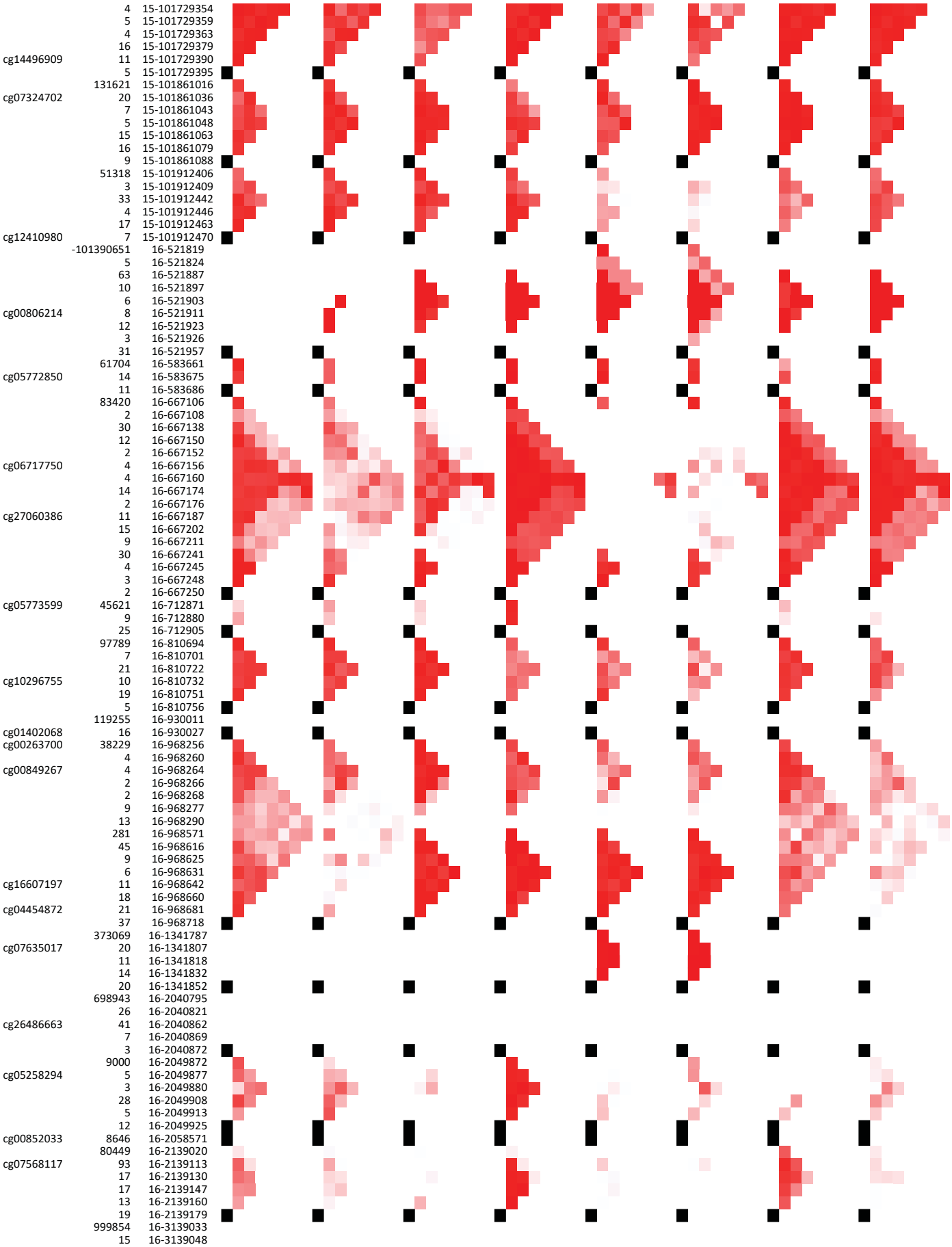


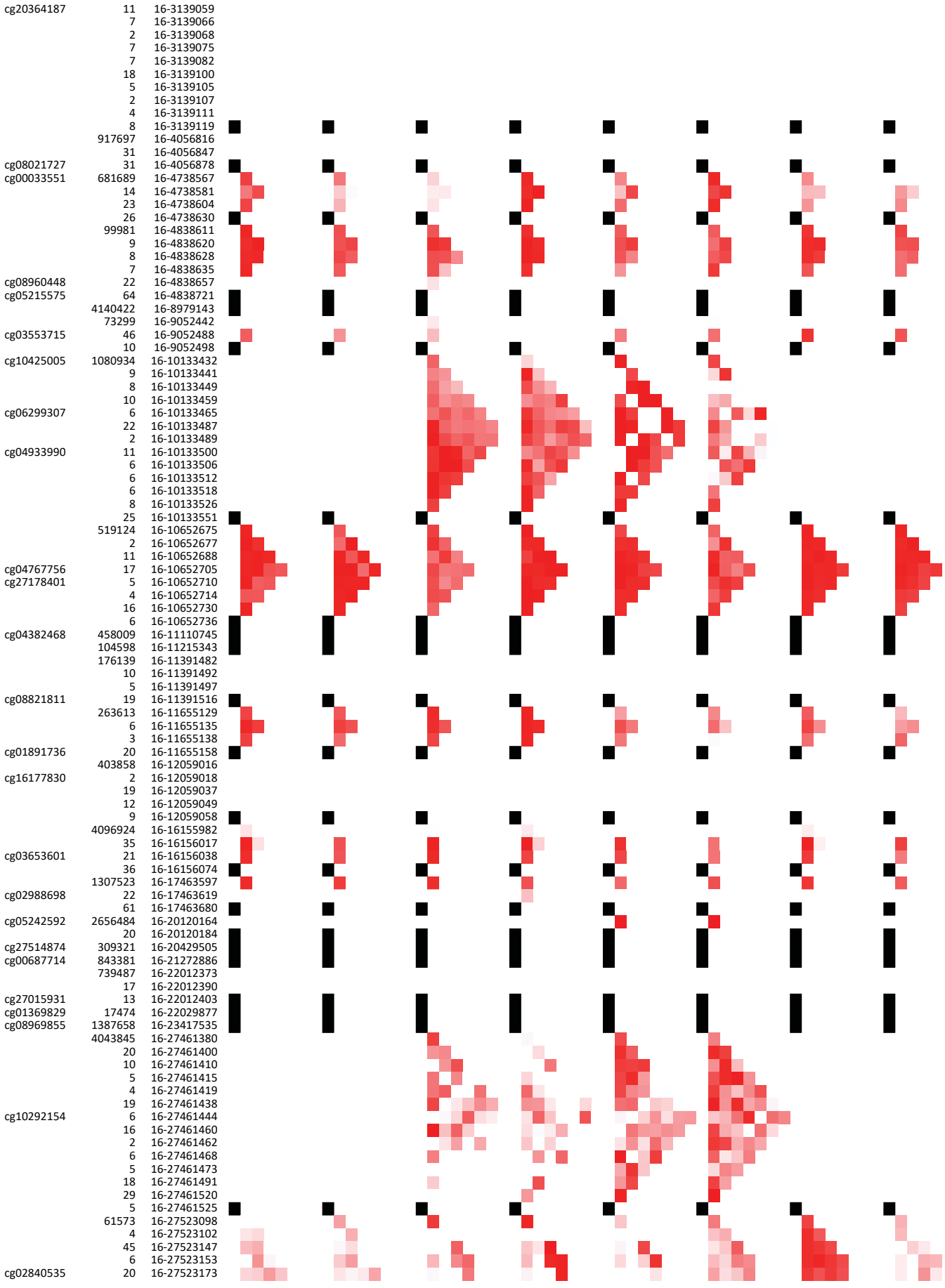

cg03032497 51 14-61108226
65 14-61108291
2 14-61108293
7 14-61108300
2 14-61108302
8 14-61108310
cg22940525 91976 14-61200286
cg02282237 588575 14-61788861
5 14-61788866
28 14-61788894
12 14-61788906
cg00244040 7 14-61788913
42 14-61788955
7 14-61788962
13 14-61788975
2 14-61788977
597 14-61789574
cg12165758 18 14-61789592
cg25562834 10 14-61789602
2 14-61789604
3180548 14-64970152
30 14-64970182
8 14-64970190
cg22043361 8 14-64970198
2 14-64970200
cg10735319 151123 14-65121323
3068073 14-68189396
cg04394967 60 14-68189456
cg23526087 784009 14-68973465
79257 14-69052722
cg04147497 5 14-69052727
5 14-69052732
cg10418626 7 14-69052739
15 14-69052754
1600918 14-70653672
25 14-70653697
3 14-70653700
13 14-70653713
cg10848272 5 14-70653718
10 14-70653728
1399335 14-72053063
23 14-72053086
52 14-72053138
cg02058870 7 14-72053145
12 14-72053157
19 14-72053176
cg05111779 937182 14-72990358
36 14-72990394
1220086 14-74210480
cg26683425 40 14-74210520
14 14-74210534
8 14-74210542
26 14-74210568
2236819 14-76447387
cg08615333 25 14-76447412
cg17928876 18 14-76447430
8 14-76447438
19 14-76447457
cg16209517 1130154 14-77577611
10881285 14-88458896
10 14-88458906
6 14-88458912
cg18103730 4 14-88458916
6 14-88458922
cg10928544 3403941 14-91862863
10 14-91862873
23 14-91862896
cg12937580 10 14-91862906
1826330 14-93689236
cg23123148 20 14-93689256
2038351 14-95727607
15 14-95727622
11 14-95727633
cg13717541 9 14-95727642
4 14-95727646
2 14-95727648
cg00761700 24 14-95727672
7 14-95727679
8 14-95727687
9 14-95727696
942910 14-96670606
13 14-96670619
cg13515881 8 14-96670627
4 14-96670631
cg18424965 2 14-96670633
15 14-96670648
10 14-96670658
cg03490759 3471229 14-100141887
3 14-100141890
18 14-100141908
6 14-100141914
3 14-100141917
8 14-100141925
4 14-100141929
cg21091197 3 14-100141932
21 14-100141953
cg15812903 770111 14-100912064
32 14-100912096

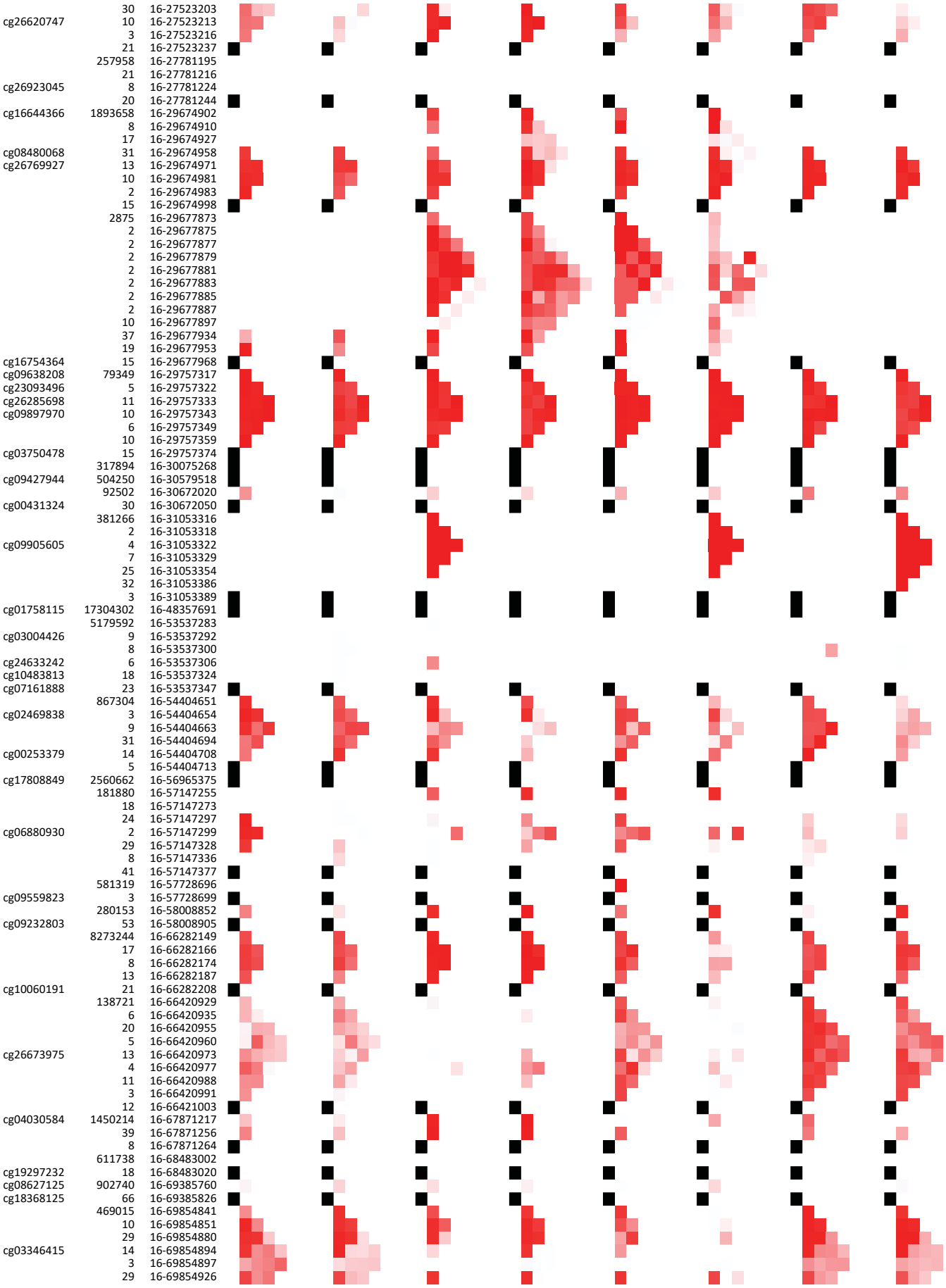


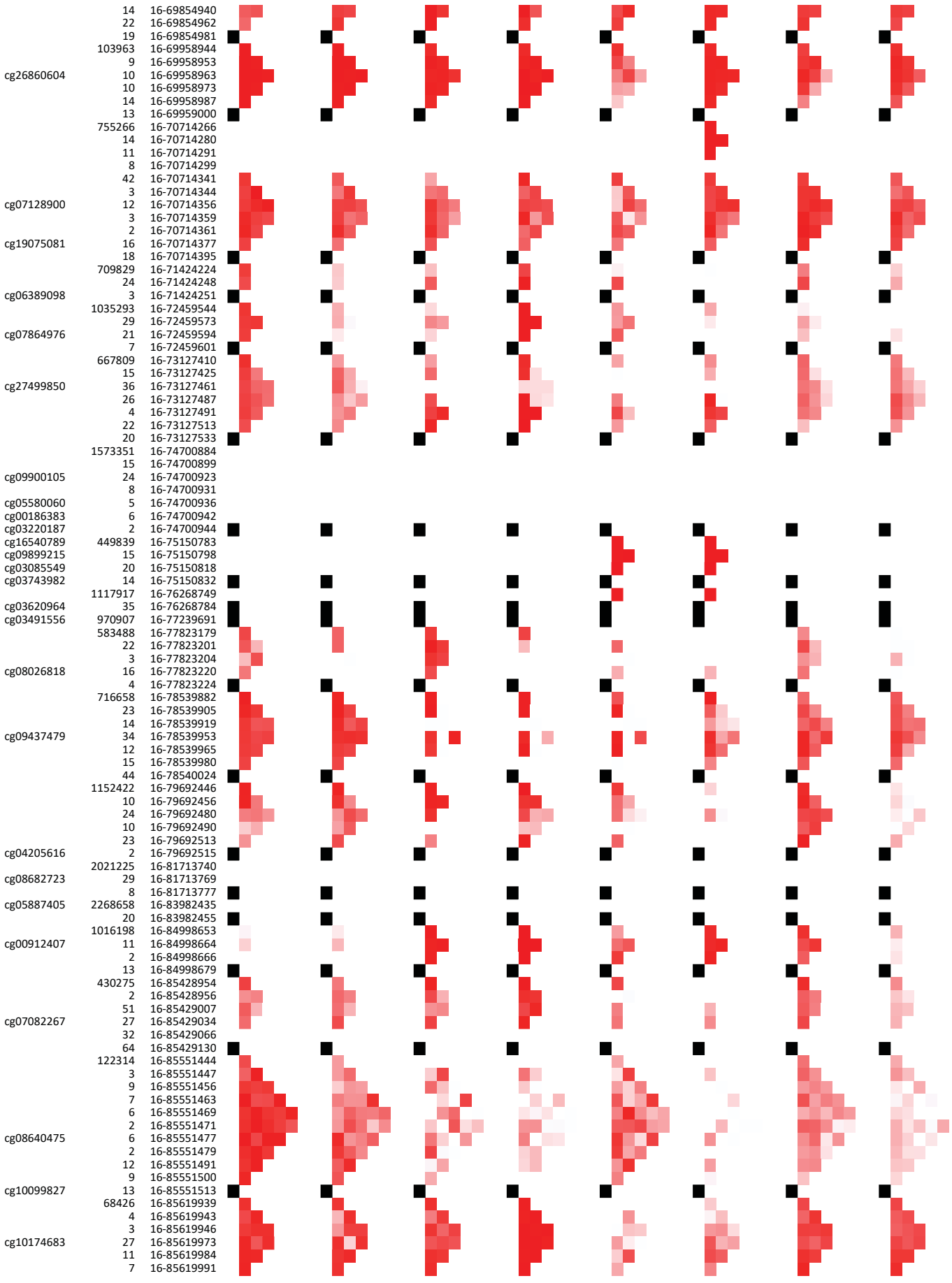

7 15-33023592
1990604 15-35014196
cg08935118 32 15-35014228
18 15-35014246
3 15-35014249
2 15-35014251
15 15-35014266
cg24922143 3 15-35014269
3 15-35014272
9 15-35014281
13 15-35014294
6 15-35014300
7 15-35014307
13 15-35014320
3750042 15-38764362
cg08305263 42 15-38764404
1835842 15-40600246
12 15-40600258
cg25210134 6 15-40600264
cg05547778 14 15-40600278
cg14076977 5 15-40600283
74 15-40600357
cg06794543 2149390 15-42749747
90893 15-42840640
cg22261880 2 15-42840642
15 15-42840657
11 15-42840668
12 15-42840680
13 15-42840693
4 15-42840697
8 15-42840705
2178168 15-45018873
20 15-45018893
cg26203328 11 15-45018904
4249758 15-49268662
16 15-49268678
29 15-49268707
12 15-49268719
26 15-49268745
cg20384325 4 15-49268749
7 15-49268756
12 15-49268768
17 15-49268785
28 15-49268813
cg11703007 1651638 15-50920451
cg26929536 1053008 15-51973459
3596036 15-55569495
cg02712036 37 15-55569532
6 15-55569538
41035 15-55610573
10 15-55610583
2 15-55610585
4 15-55610589
cg19991916 34 15-55610623
4 15-55610627
2 15-55610629
10 15-55610639
1599587 15-57210226
cg23131007 17 15-57210243
6 15-57210249
11 15-57210260
10 15-57210270
4 15-57210274
2 15-57210276
10 15-57210286
5 15-57210291
4 15-57210295
107652 15-57317947
cg24079727 32 15-57317979
cg16391792 1405677 15-58723656
18 15-58723674
cg03933990 1563464 15-60287138
2 15-60287140
11 15-60287151
20 15-60287171
6 15-60287177
15 15-60287192
cg01947130 3 15-60287195
5 15-60287200
2071884 15-62359084
cg18866529 18 15-62359102
12 15-62359114
cg00325866 15 15-62359129
cg21618333 9 15-62359138
52 15-62359190
3 15-62359193
2 15-62359195
2 15-62359197
2 15-62359199
18 15-62359217
7 15-62359224
cg09915444 50 15-62359274
33 15-62359307
26 15-62359333
861251 15-63220584
4 15-63220588
cg23068558 63 15-63220651
12 15-63220663

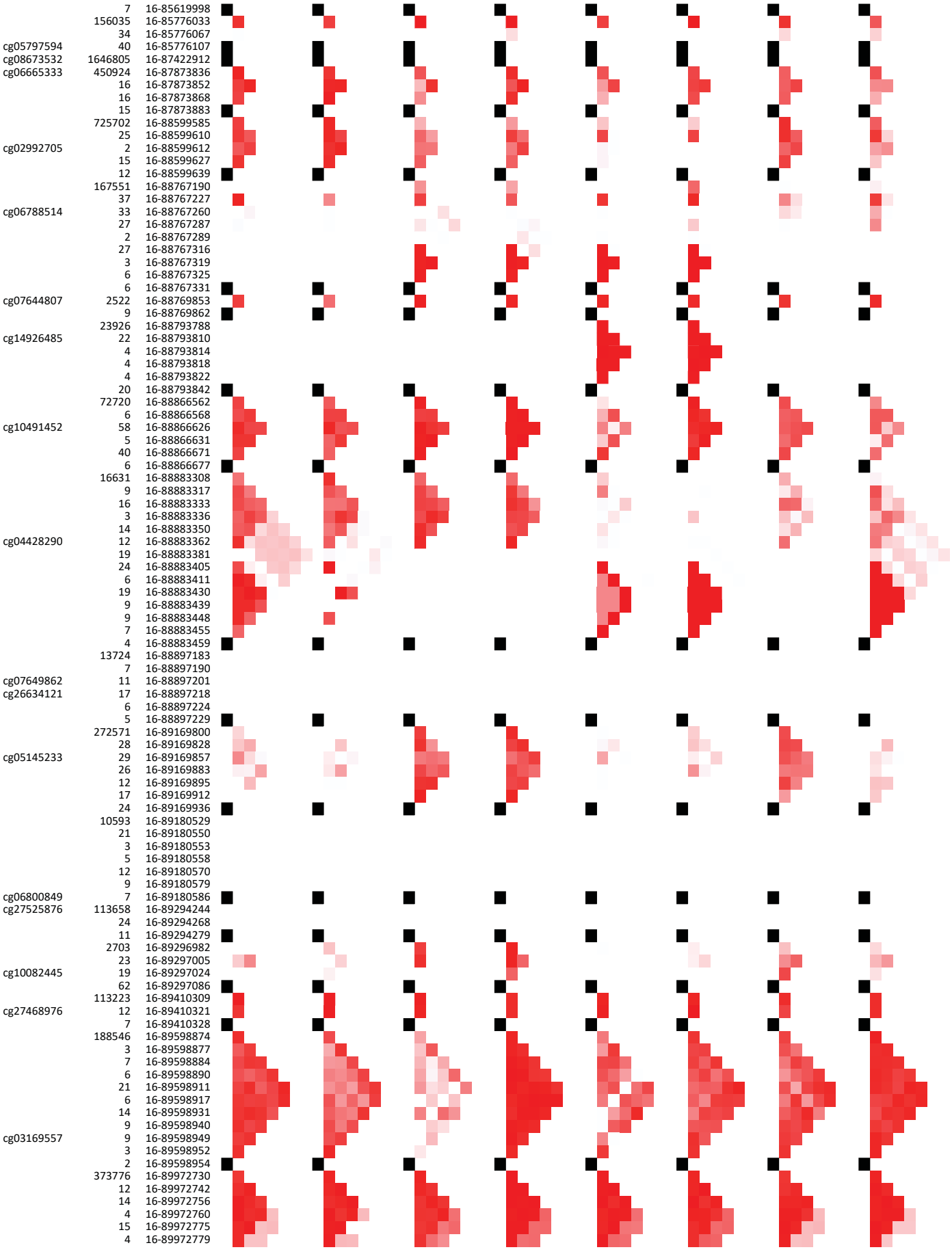

13 15-63220676
533004 15-63753680
2 15-63753682
4 15-63753686
cg12491643 10 15-63753696
2 15-63753698
11 15-63753709
18 15-63753727
4 15-63753731
38 15-63753769
cg11823654 1364166 15-65117935
12 15-65117947
cg21827641 14 15-65117961
1915357 15-67033318
cg15931471 11 15-67033329
43 15-67033372
17 15-67033389
3 15-67033392
4 15-67033396
cg27536151 830956 15-67864352
cg05338167 633898 15-68498250
8 15-68498258
1262663 15-69760921
4 15-69760925
55 15-69760980
cg18477949 13 15-69760993
5 15-69760998
1646425 15-71407423
2 15-71407425
4 15-71407429
cg00316759 54 15-71407483
2 15-71407485
cg09157272 1053264 15-72460749
67 15-72460816
cg09651136 64195 15-72525011
56 15-72525067
28 15-72525095
6 15-72525101
3 15-72525104
cg02329430 1396280 15-73921384
cg02812767 297083 15-74218467
cg00071887 61 15-74218528
439698 15-74658226
cg02916102 17 15-74658243
6 15-74658249
15 15-74658264
4 15-74658268
7 15-74658275
17 15-74658292
1975747 15-76634039
9 15-76634048
3 15-76634051
19 15-76634070
6 15-76634076
1661956 15-78296032
cg13208438 8 15-78296040
cg21642988 262365 15-78558405
53 15-78558458
2733653 15-81292111
50 15-81292161
cg00143527 9 15-81292170
53 15-81292223
19 15-81292242
6 15-81292248
cg09260048 1123156 15-82415404
cg18091465 135681 15-82551085
cg20592391 781001 15-83332086
2901120 15-86233206
cg05341539 7 15-86233213
cg25947619 6 15-86233219
cg25510609 16 15-86233235
19 15-86233254
10 15-86233264
14 15-86233278
4670936 15-90904214
3 15-90904217
738237 15-91642454
cg11165422 15 15-91642469
5 15-91642474
3 15-91642477
2704305 15-94346782
7 15-94346789
24 15-94346813
cg07166171 3 15-94346816
cg25799955 31 15-94346847
7 15-94346854
9 15-94346863
cg24334512 23 15-94346886
8 15-94346894
cg12094029 1053133 15-95400027
cg17437419 39 15-95400066
cg19707853 2797847 15-98197913
3531396 15-101729309
19 15-101729328
2 15-101729330
12 15-101729342
5 15-101729347
3 15-101729350

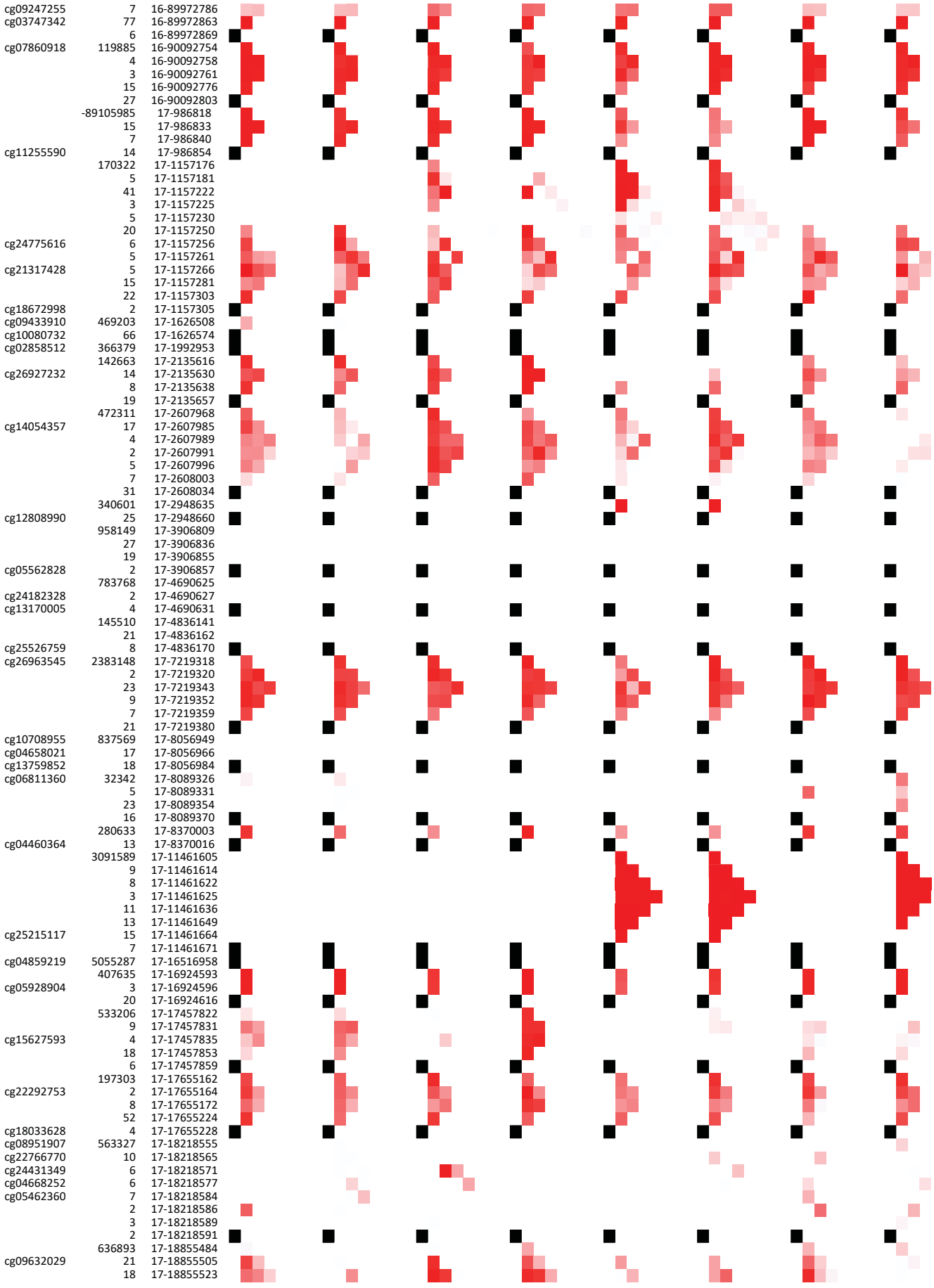

4 15-101729354
5 15-101729359
4 15-101729363
16 15-101729379
cg14496909 11 15-101729390
5 15-101729395
131621 15-101861016
cg07324702 20 15-101861036
7 15-101861043
5 15-101861048
15 15-101861063
16 15-101861079
9 15-101861088
51318 15-101912406
3 15-101912409
33 15-101912442
4 15-101912446
17 15-101912463
cg12410980 7 15-101912470
-101390651 16-521819
5 16-521824
63 16-521887
10 16-521897
6 16-521903
cg00806214 8 16-521911
12 16-521923
3 16-521926
31 16-521957
61704 16-583661
cg05772850 14 16-583675
11 16-583686
83420 16-667106
2 16-667108
30 16-667138
12 16-667150
2 16-667152
cg06717750 4 16-667156
4 16-667160
14 16-667174
2 16-667176
cg27060386 11 16-667187
15 16-667202
9 16-667211
30 16-667241
4 16-667245
3 16-667248
2 16-667250
cg05773599 45621 16-712871
9 16-712880
25 16-712905
97789 16-810694
7 16-810701
21 16-810722
cg10296755 10 16-810732
19 16-810751
5 16-810756
119255 16-930011
cg01402068 16 16-930027
cg00263700 38229 16-968256
4 16-968260
cg00849267 4 16-968264
2 16-968266
2 16-968268
9 16-968277
13 16-968290
281 16-968571
45 16-968616
9 16-968625
6 16-968631
cg16607197 11 16-968642
18 16-968660
cg04454872 21 16-968681
37 16-968718
373069 16-1341787
cg07635017 20 16-1341807
11 16-1341818
14 16-1341832
20 16-1341852
698943 16-2040795
26 16-2040821
cg26486663 41 16-2040862
7 16-2040869
3 16-2040872
9000 16-2049872
cg05258294 5 16-2049877
3 16-2049880
28 16-2049908
5 16-2049913
12 16-2049925
cg00852033 8646 16-2058571
80449 16-2139020
cg07568117 93 16-2139113
17 16-2139130
17 16-2139147
13 16-2139160
19 16-2139179
999854 16-3139033
15 16-3139048

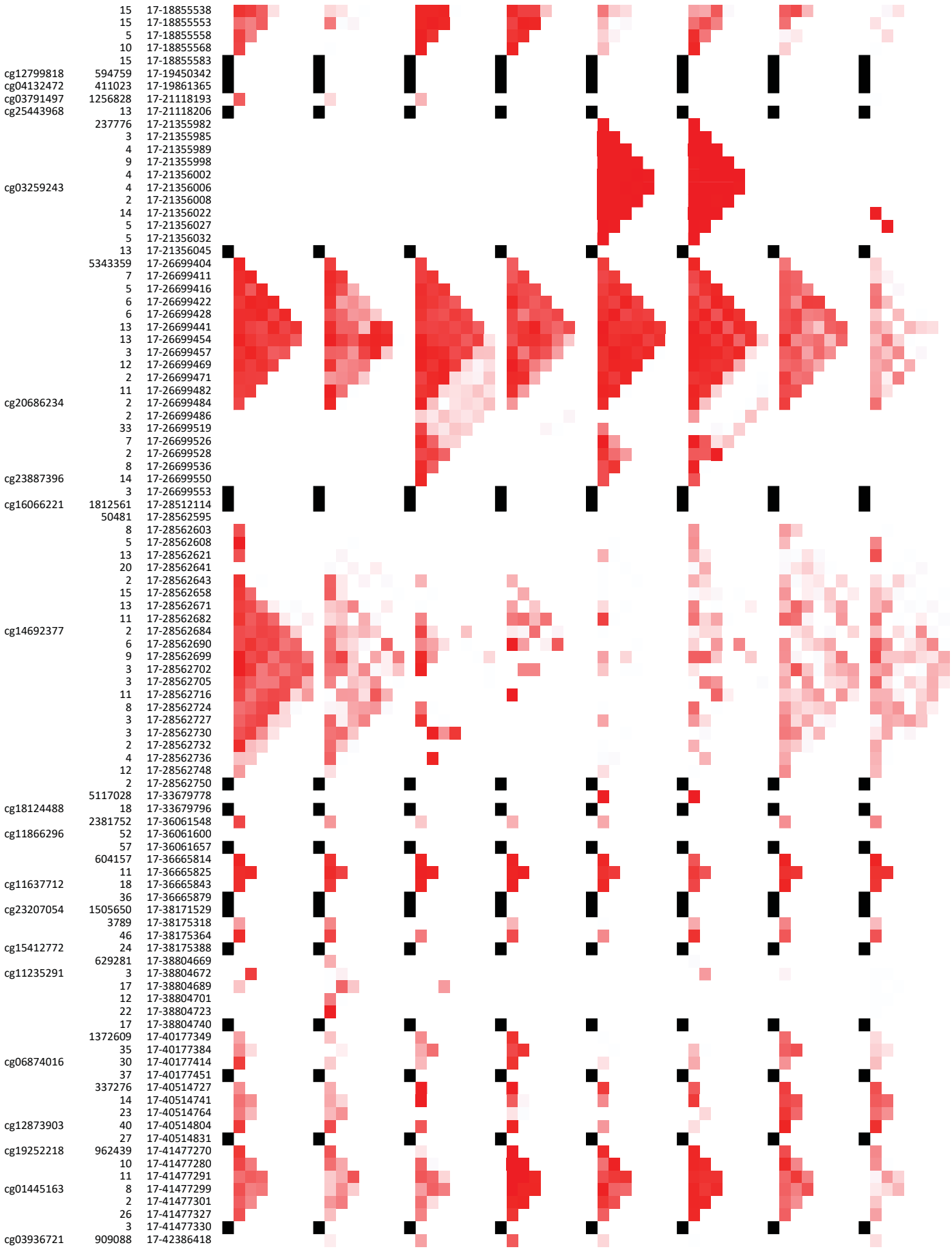

cg20364187 11 16-3139059
7 16-3139066
2 16-3139068
7 16-3139075
7 16-3139082
18 16-3139100
5 16-3139105
2 16-3139107
4 16-3139111
8 16-3139119
917697 16-4056816
31 16-4056847
cg08021727 31 16-4056878
cg00033551 681689 16-4738567
14 16-4738581
23 16-4738604
26 16-4738630
99981 16-4838611
9 16-4838620
8 16-4838628
7 16-4838635
cg08960448 22 16-4838657
cg05215575 64 16-4838721
4140422 16-8979143
73299 16-9052442
cg03553715 46 16-9052488
10 16-9052498
cg10425005 1080934 16-10133432
9 16-10133441
8 16-10133449
10 16-10133459
cg06299307 6 16-10133465
22 16-10133487
2 16-10133489
cg04933990 11 16-10133500
6 16-10133506
6 16-10133512
6 16-10133518
8 16-10133526
25 16-10133551
519124 16-10652675
2 16-10652677
11 16-10652688
cg04767756 17 16-10652705
cg27178401 5 16-10652710
4 16-10652714
16 16-10652730
6 16-10652736
cg04382468 458009 16-11110745
104598 16-11215343
176139 16-11391482
10 16-11391492
5 16-11391497
cg08821811 19 16-11391516
263613 16-11655129
6 16-11655135
3 16-11655138
cg01891736 20 16-11655158
403858 16-12059016
cg16177830 2 16-12059018
19 16-12059037
12 16-12059049
9 16-12059058
4096924 16-16155982
35 16-16156017
cg03653601 21 16-16156038
36 16-16156074
1307523 16-17463597
cg02988698 22 16-17463619
61 16-17463680
cg05242592 2656484 16-20120164
20 16-20120184
cg27514874 309321 16-20429505
cg00687714 843381 16-21272886
739487 16-22012373
17 16-22012390
cg27015931 13 16-22012403
cg01369829 17474 16-22029877
cg08969855 1387658 16-23417535
4043845 16-27461380
20 16-27461400
10 16-27461410
5 16-27461415
4 16-27461419
19 16-27461438
cg10292154 6 16-27461444
16 16-27461460
2 16-27461462
6 16-27461468
5 16-27461473
18 16-27461491
29 16-27461520
5 16-27461525
61573 16-27523098
4 16-27523102
45 16-27523147
6 16-27523153
cg02840535 20 16-27523173

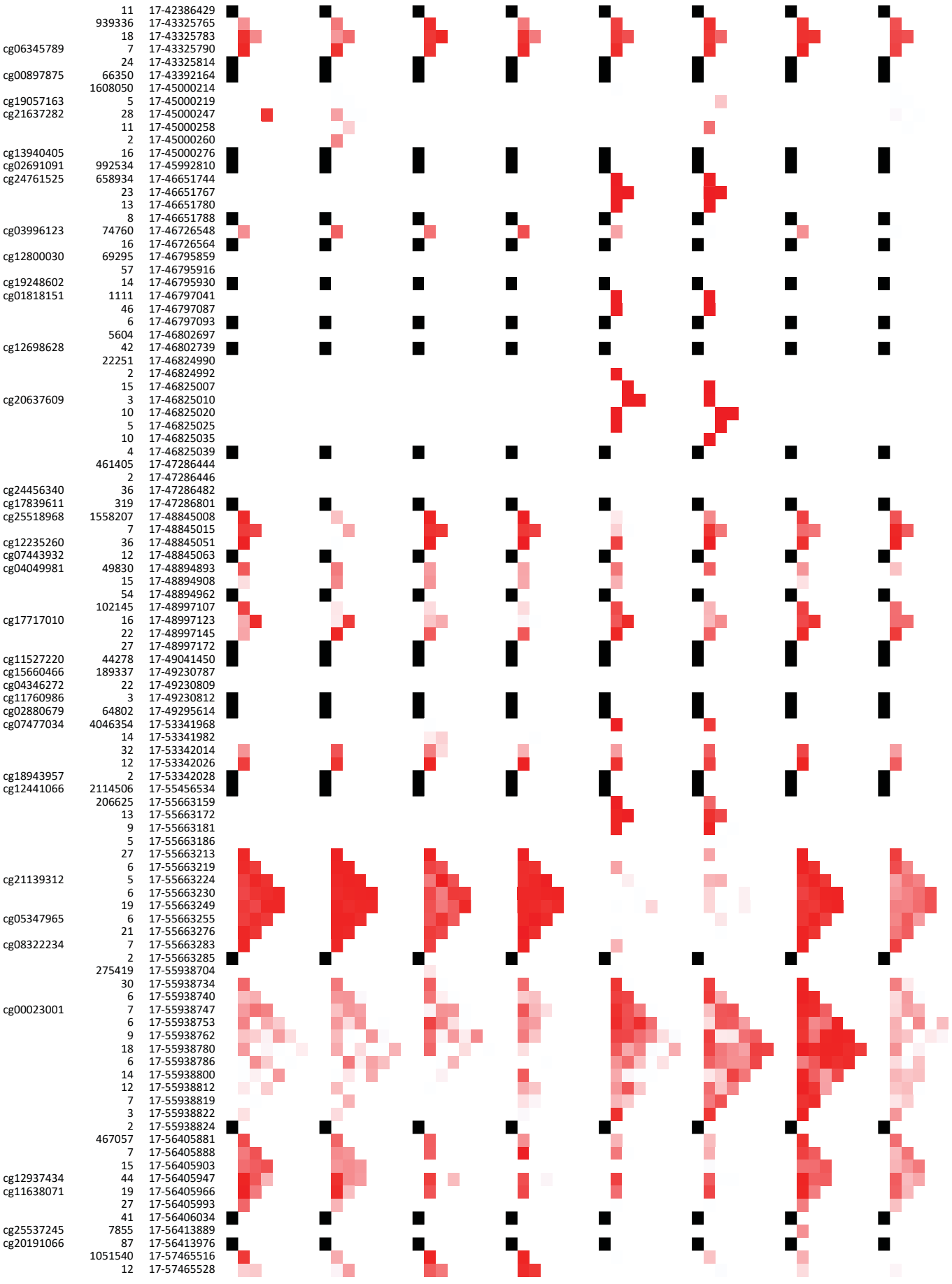


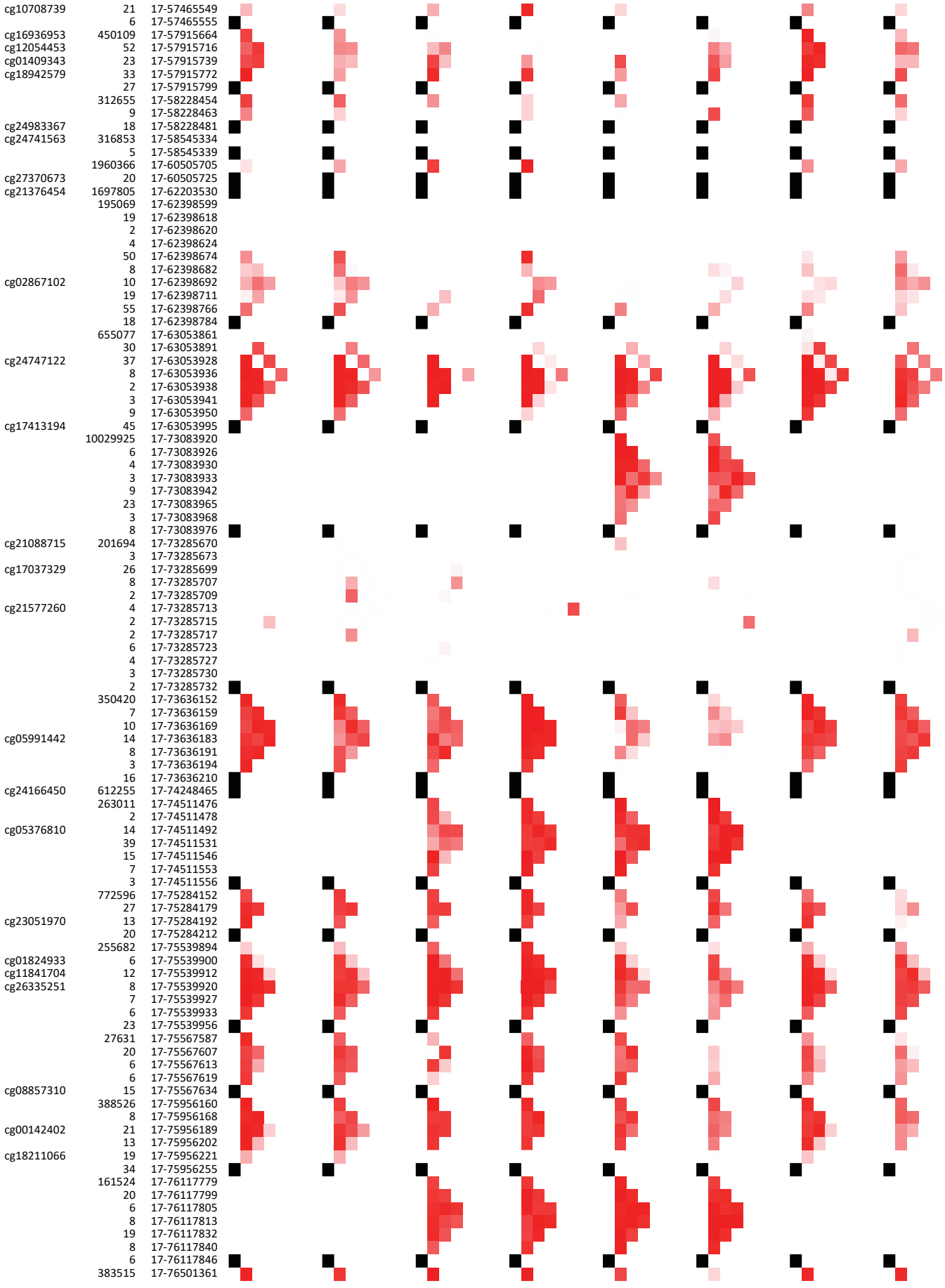

14 16-69854940
22 16-69854962
19 16-69854981
103963 16-69958944
9 16-69958953
cg26860604 10 16-69958963
10 16-69958973
14 16-69958987
13 16-69959000
755266 16-70714266
14 16-70714280
11 16-70714291
8 16-70714299
42 16-70714341
3 16-70714344
cg07128900 12 16-70714356
3 16-70714359
2 16-70714361
cg19075081 16 16-70714377
18 16-70714395
709829 16-71424224
24 16-71424248
cg06389098 3 16-71424251
1035293 16-72459544
29 16-72459573
cg07864976 21 16-72459594
7 16-72459601
667809 16-73127410
15 16-73127425
cg27499850 36 16-73127461
26 16-73127487
4 16-73127491
22 16-73127513
20 16-73127533
1573351 16-74700884
15 16-74700899
cg09900105 24 16-74700923
8 16-74700931
cg05580060 5 16-74700936
cg00186383 6 16-74700942
cg03220187 2 16-74700944
cg16540789 449839 16-75150783
cg09899215 15 16-75150798
cg03085549 20 16-75150818
cg03743982 14 16-75150832
1117917 16-76268749
cg03620964 35 16-76268784
cg03491556 970907 16-77239691
583488 16-77823179
22 16-77823201
3 16-77823204
cg08026818 16 16-77823220
4 16-77823224
716658 16-78539882
23 16-78539905
14 16-78539919
cg09437479 34 16-78539953
12 16-78539965
15 16-78539980
44 16-78540024
1152422 16-79692446
10 16-79692456
24 16-79692480
10 16-79692490
23 16-79692513
cg04205616 2 16-79692515
2021225 16-81713740
cg08682723 29 16-81713769
8 16-81713777
cg05887405 2268658 16-83982435
20 16-83982455
1016198 16-84998653
cg00912407 11 16-84998664
2 16-84998666
13 16-84998679
430275 16-85428954
2 16-85428956
51 16-85429007
cg07082267 27 16-85429034
32 16-85429066
64 16-85429130
122314 16-85551444
3 16-85551447
9 16-85551456
7 16-85551463
6 16-85551469
2 16-85551471
cg08640475 6 16-85551477
2 16-85551479
12 16-85551491
9 16-85551500
cg10099827 13 16-85551513
68426 16-85619939
4 16-85619943
3 16-85619946
cg10174683 27 16-85619973
11 16-85619984
7 16-85619991

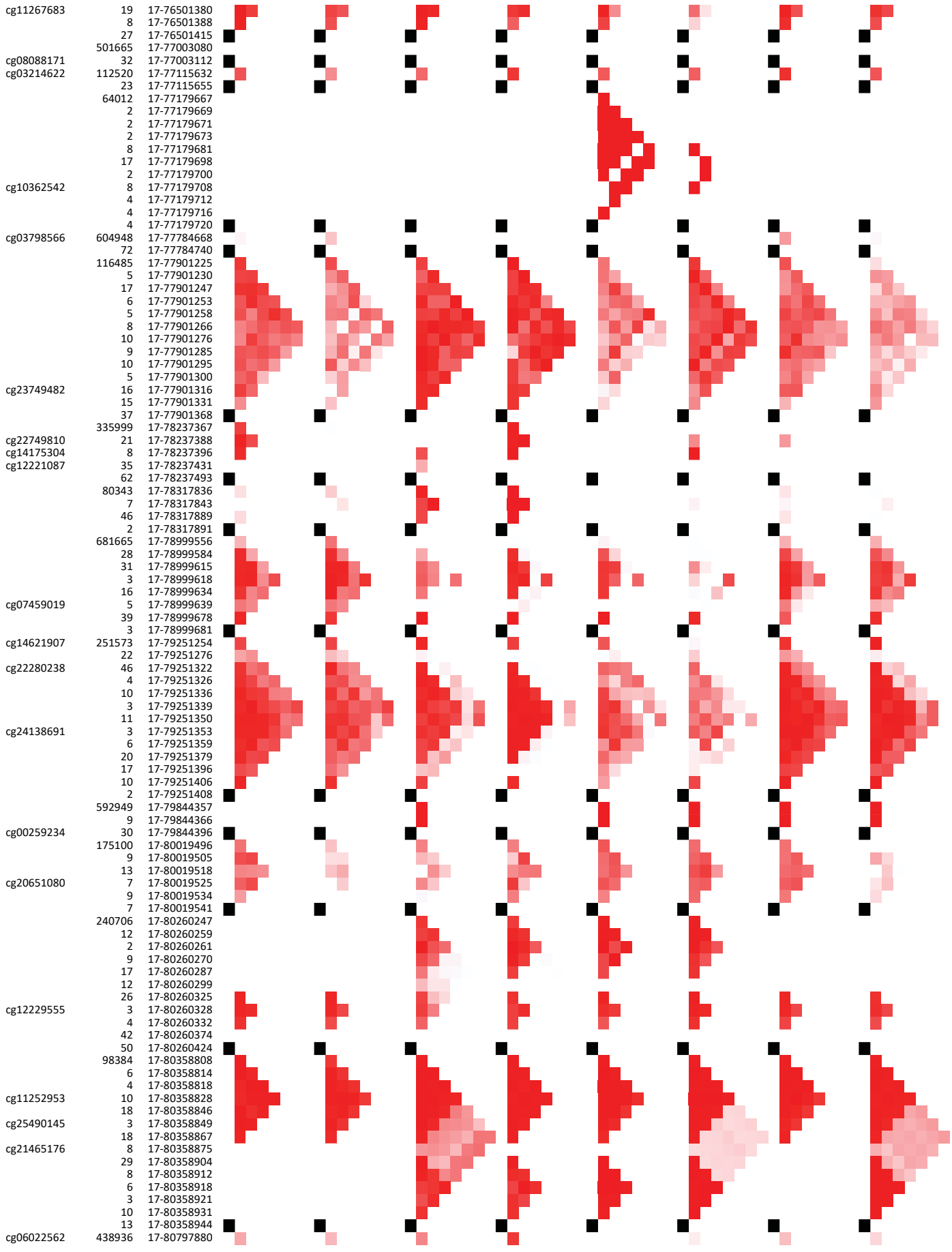

7 16-85619998
156035 16-85776033
34 16-85776067
cg05797594 40 16-85776107
cg08673532 1646805 16-87422912
cg06665333 450924 16-87873836
16 16-87873852
16 16-87873868
15 16-87873883
725702 16-88599585
25 16-88599610
cg02992705 2 16-88599612
15 16-88599627
12 16-88599639
167551 16-88767190
37 16-88767227
cg06788514 33 16-88767260
27 16-88767287
2 16-88767289
27 16-88767316
3 16-88767319
6 16-88767325
6 16-88767331
cg07644807 2522 16-88769853
9 16-88769862
23926 16-88793788
cg14926485 22 16-88793810
4 16-88793814
4 16-88793818
4 16-88793822
20 16-88793842
72720 16-88866562
6 16-88866568
cg10491452 58 16-88866626
5 16-88866631
40 16-88866671
6 16-88866677
16631 16-88883308
9 16-88883317
16 16-88883333
3 16-88883336
14 16-88883350
cg04428290 12 16-88883362
19 16-88883381
24 16-88883405
6 16-88883411
19 16-88883430
9 16-88883439
9 16-88883448
7 16-88883455
4 16-88883459
13724 16-88897183
7 16-88897190
cg07649862 11 16-88897201
cg26634121 17 16-88897218
6 16-88897224
5 16-88897229
272571 16-89169800
28 16-89169828
cg05145233 29 16-89169857
26 16-89169883
12 16-89169895
17 16-89169912
24 16-89169936
10593 16-89180529
21 16-89180550
3 16-89180553
5 16-89180558
12 16-89180570
9 16-89180579
cg06800849 7 16-89180586
cg27525876 113658 16-89294244
24 16-89294268
11 16-89294279
2703 16-89296982
23 16-89297005
cg10082445 19 16-89297024
62 16-89297086
113223 16-89410309
cg27468976 12 16-89410321
7 16-89410328
188546 16-89598874
3 16-89598877
7 16-89598884
6 16-89598890
21 16-89598911
6 16-89598917
14 16-89598931
9 16-89598940
cg03169557 9 16-89598949
3 16-89598952
2 16-89598954
373776 16-89972730
12 16-89972742
14 16-89972756
4 16-89972760
15 16-89972775
4 16-89972779

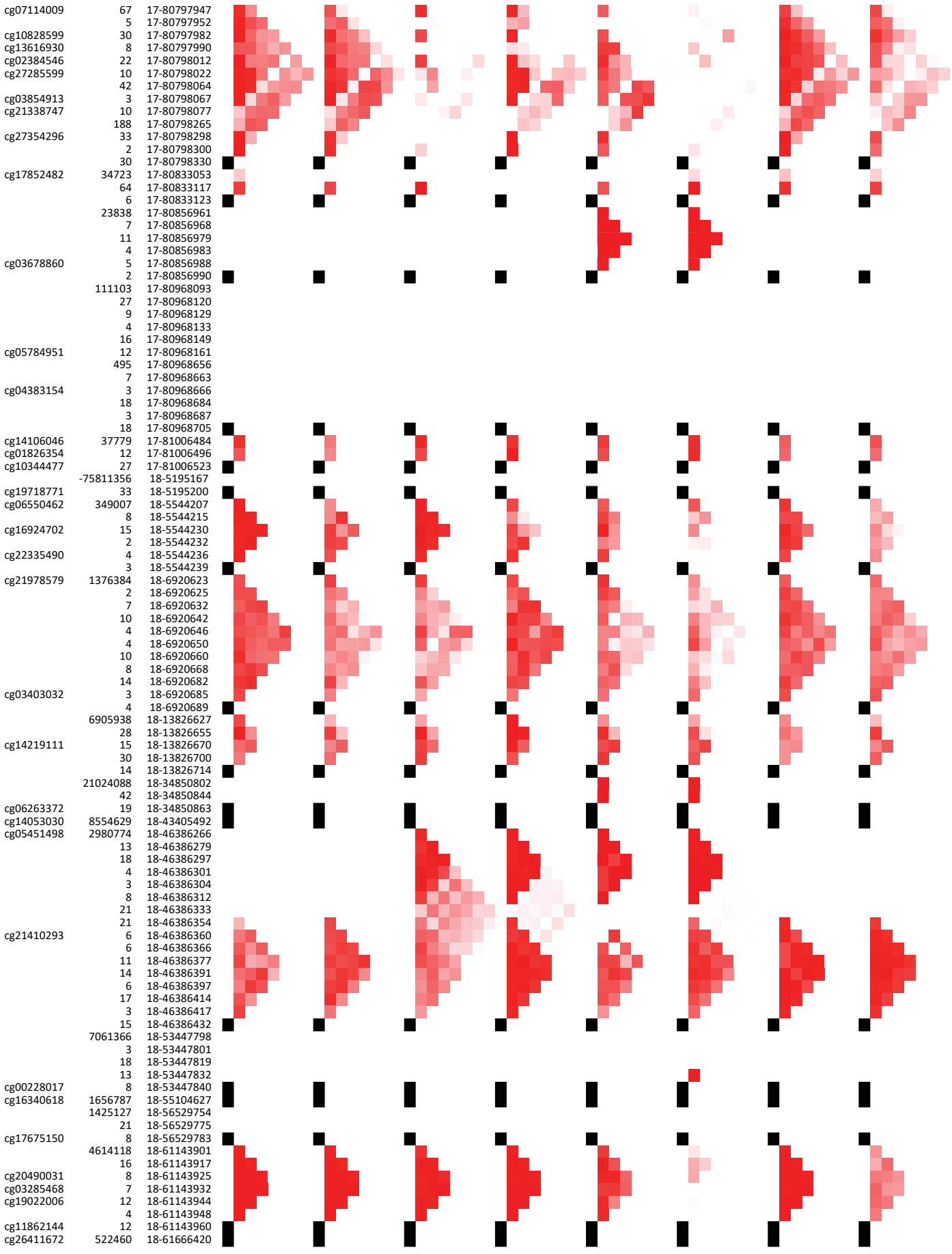

cg09247255 7 16-89972786
cg03747342 77 16-89972863
6 16-89972869
cg07860918 119885 16-90092754
4 16-90092758
3 16-90092761
15 16-90092776
27 16-90092803
-89105985 17-986818
15 17-986833
7 17-986840
cg11255590 14 17-986854
170322 17-1157176
5 17-1157181
41 17-1157222
3 17-1157225
5 17-1157230
20 17-1157250
cg24775616 6 17-1157256
5 17-1157261
cg21317428 5 17-1157266
15 17-1157281
22 17-1157303
cg18672998 2 17-1157305
cg09433910 469203 17-1626508
cg10080732 66 17-1626574
cg02858512 366379 17-1992953
142663 17-2135616
cg26927232 14 17-2135630
8 17-2135638
19 17-2135657
472311 17-2607968
cg14054357 17 17-2607985
4 17-2607989
2 17-2607991
5 17-2607996
7 17-2608003
31 17-2608034
340601 17-2948635
cg12808990 25 17-2948660
958149 17-3906809
27 17-3906836
19 17-3906855
cg05562828 2 17-3906857
783768 17-4690625
cg24182328 2 17-4690627
cg13170005 4 17-4690631
145510 17-4836141
21 17-4836162
cg25526759 8 17-4836170
cg26963545 2383148 17-7219318
2 17-7219320
23 17-7219343
9 17-7219352
7 17-7219359
21 17-7219380
cg10708955 837569 17-8056949
cg04658021 17 17-8056966
cg13759852 18 17-8056984
cg06811360 32342 17-8089326
5 17-8089331
23 17-8089354
16 17-8089370
280633 17-8370003
cg04460364 13 17-8370016
3091589 17-11461605
9 17-11461614
8 17-11461622
3 17-11461625
11 17-11461636
13 17-11461649
cg25215117 15 17-11461664
7 17-11461671
cg04859219 5055287 17-16516958
407635 17-16924593
cg05928904 3 17-16924596
20 17-16924616
533206 17-17457822
9 17-17457831
cg15627593 4 17-17457835
18 17-17457853
6 17-17457859
197303 17-17655162
cg22292753 2 17-17655164
8 17-17655172
52 17-17655224
cg18033628 4 17-17655228
cg08951907 563327 17-18218555
cg22766770 10 17-18218565
cg24431349 6 17-18218571
cg04668252 6 17-18218577
cg05462360 7 17-18218584
2 17-18218586
3 17-18218589
2 17-18218591
636893 17-18855484
cg09632029 21 17-18855505
18 17-18855523

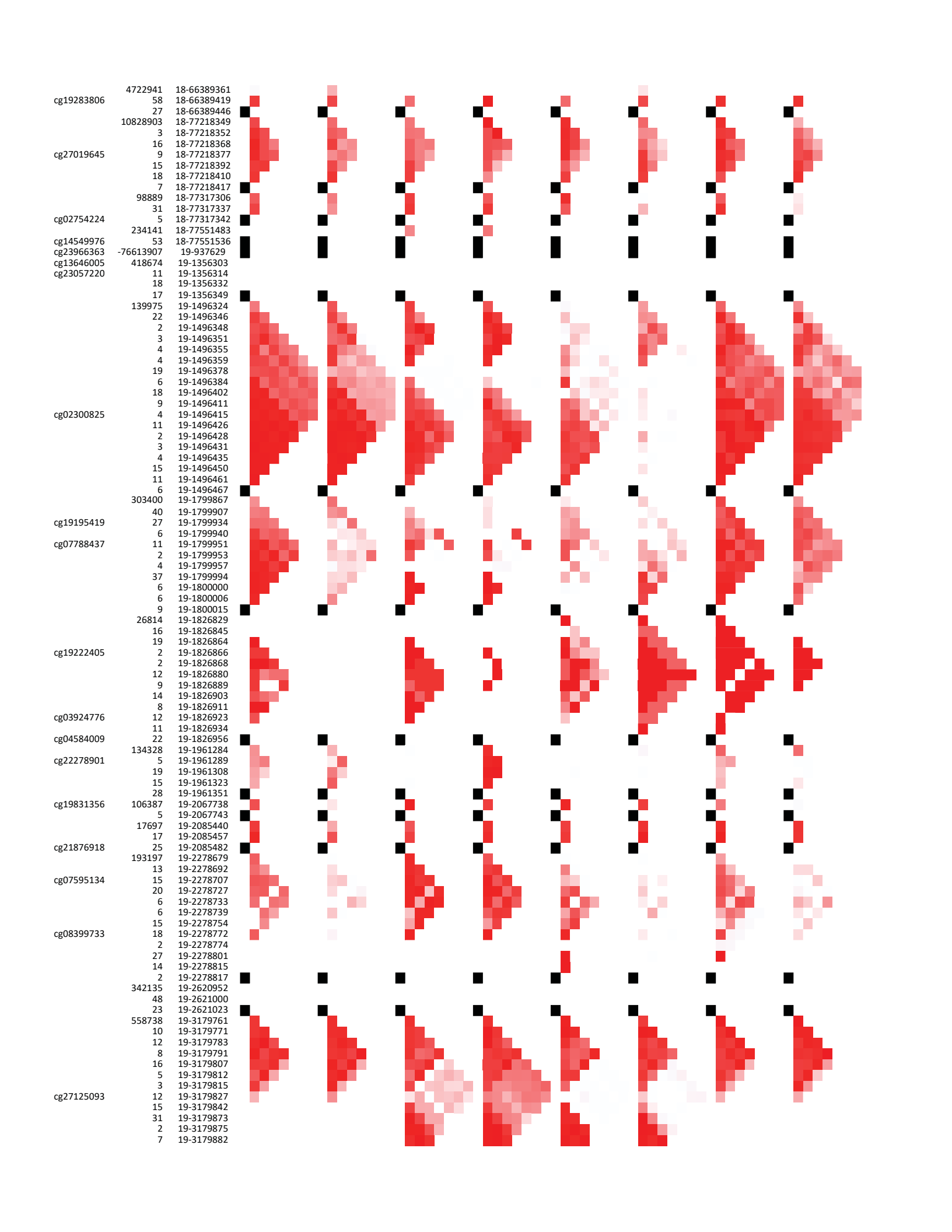

15 17-18855538
15 17-18855553
5 17-18855558
10 17-18855568
15 17-18855583
cg12799818 594759 17-19450342
cg04132472 411023 17-19861365
cg03791497 1256828 17-21118193
cg25443968 13 17-21118206
237776 17-21355982
3 17-21355985
4 17-21355989
9 17-21355998
4 17-21356002
cg03259243 4 17-21356006
2 17-21356008
14 17-21356022
5 17-21356027
5 17-21356032
13 17-21356045
5343359 17-26699404
7 17-26699411
5 17-26699416
6 17-26699422
6 17-26699428
13 17-26699441
13 17-26699454
3 17-26699457
12 17-26699469
2 17-26699471
11 17-26699482
cg20686234 2 17-26699484
2 17-26699486
33 17-26699519
7 17-26699526
2 17-26699528
8 17-26699536
cg23887396 14 17-26699550
3 17-26699553
cg16066221 1812561 17-28512114
50481 17-28562595
8 17-28562603
5 17-28562608
13 17-28562621
20 17-28562641
2 17-28562643
15 17-28562658
13 17-28562671
11 17-28562682
cg14692377 2 17-28562684
6 17-28562690
9 17-28562699
3 17-28562702
3 17-28562705
11 17-28562716
8 17-28562724
3 17-28562727
3 17-28562730
2 17-28562732
4 17-28562736
12 17-28562748
2 17-28562750
5117028 17-33679778
cg18124488 18 17-33679796
2381752 17-36061548
cg11866296 52 17-36061600
57 17-36061657
604157 17-36665814
11 17-36665825
cg11637712 18 17-36665843
36 17-36665879
cg23207054 1505650 17-38171529
3789 17-38175318
46 17-38175364
cg15412772 24 17-38175388
629281 17-38804669
cg11235291 3 17-38804672
17 17-38804689
12 17-38804701
22 17-38804723
17 17-38804740
1372609 17-40177349
35 17-40177384
cg06874016 30 17-40177414
37 17-40177451
337276 17-40514727
14 17-40514741
23 17-40514764
cg12873903 40 17-40514804
27 17-40514831
cg19252218 962439 17-41477270
10 17-41477280
11 17-41477291
cg01445163 8 17-41477299
2 17-41477301
26 17-41477327
3 17-41477330
cg03936721 909088 17-42386418

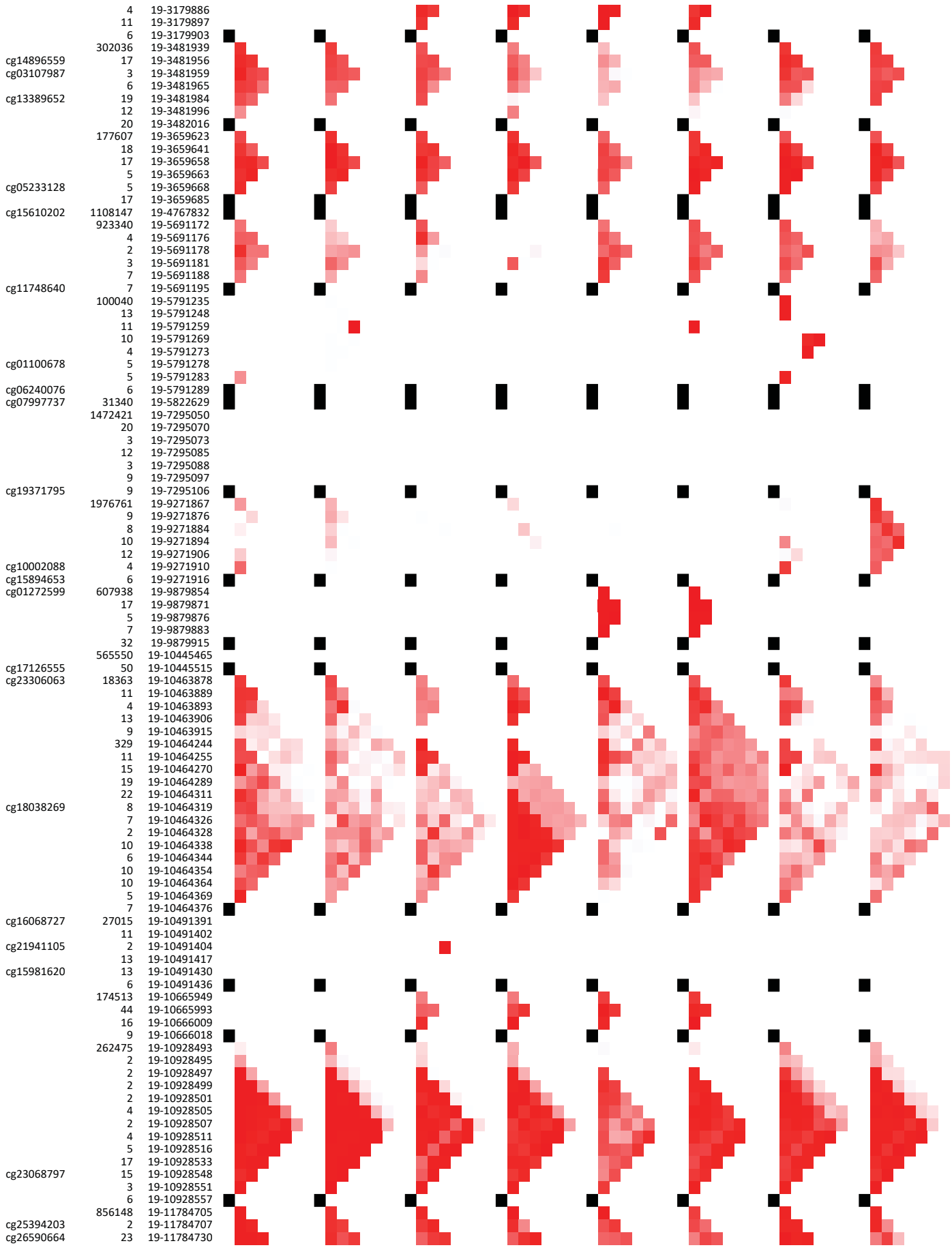

11 17-42386429
939336 17-43325765
18 17-43325783
cg06345789 7 17-43325790
24 17-43325814
cg00897875 66350 17-43392164
1608050 17-45000214
cg19057163 5 17-45000219
cg21637282 28 17-45000247
11 17-45000258
2 17-45000260
cg13940405 16 17-45000276
cg02691091 992534 17-45992810
cg24761525 658934 17-46651744
23 17-46651767
13 17-46651780
8 17-46651788
cg03996123 74760 17-46726548
16 17-46726564
cg12800030 69295 17-46795859
57 17-46795916
cg19248602 14 17-46795930
cg01818151 1111 17-46797041
46 17-46797087
6 17-46797093
5604 17-46802697
cg12698628 42 17-46802739
22251 17-46824990
2 17-46824992
15 17-46825007
cg20637609 3 17-46825010
10 17-46825020
5 17-46825025
10 17-46825035
4 17-46825039
461405 17-47286444
2 17-47286446
cg24456340 36 17-47286482
cg17839611 319 17-47286801
cg25518968 1558207 17-48845008
7 17-48845015
cg12235260 36 17-48845051
cg07443932 12 17-48845063
cg04049981 49830 17-48894893
15 17-48894908
54 17-48894962
102145 17-48997107
cg17717010 16 17-48997123
22 17-48997145
27 17-48997172
cg11527220 44278 17-49041450
cg15660466 189337 17-49230787
cg04346272 22 17-49230809
cg11760986 3 17-49230812
cg02880679 64802 17-49295614
cg07477034 4046354 17-53341968
14 17-53341982
32 17-53342014
12 17-53342026
cg18943957 2 17-53342028
cg12441066 2114506 17-55456534
206625 17-55663159
13 17-55663172
9 17-55663181
5 17-55663186
27 17-55663213
6 17-55663219
cg21139312 5 17-55663224
6 17-55663230
19 17-55663249
cg05347965 6 17-55663255
21 17-55663276
cg08322234 7 17-55663283
2 17-55663285
275419 17-55938704
30 17-55938734
6 17-55938740
cg00023001 7 17-55938747
6 17-55938753
9 17-55938762
18 17-55938780
6 17-55938786
14 17-55938800
12 17-55938812
7 17-55938819
3 17-55938822
2 17-55938824
467057 17-56405881
7 17-56405888
15 17-56405903
cg12937434 44 17-56405947
cg11638071 19 17-56405966
27 17-56405993
41 17-56406034
cg25537245 7855 17-56413889
cg20191066 87 17-56413976
1051540 17-57465516
12 17-57465528

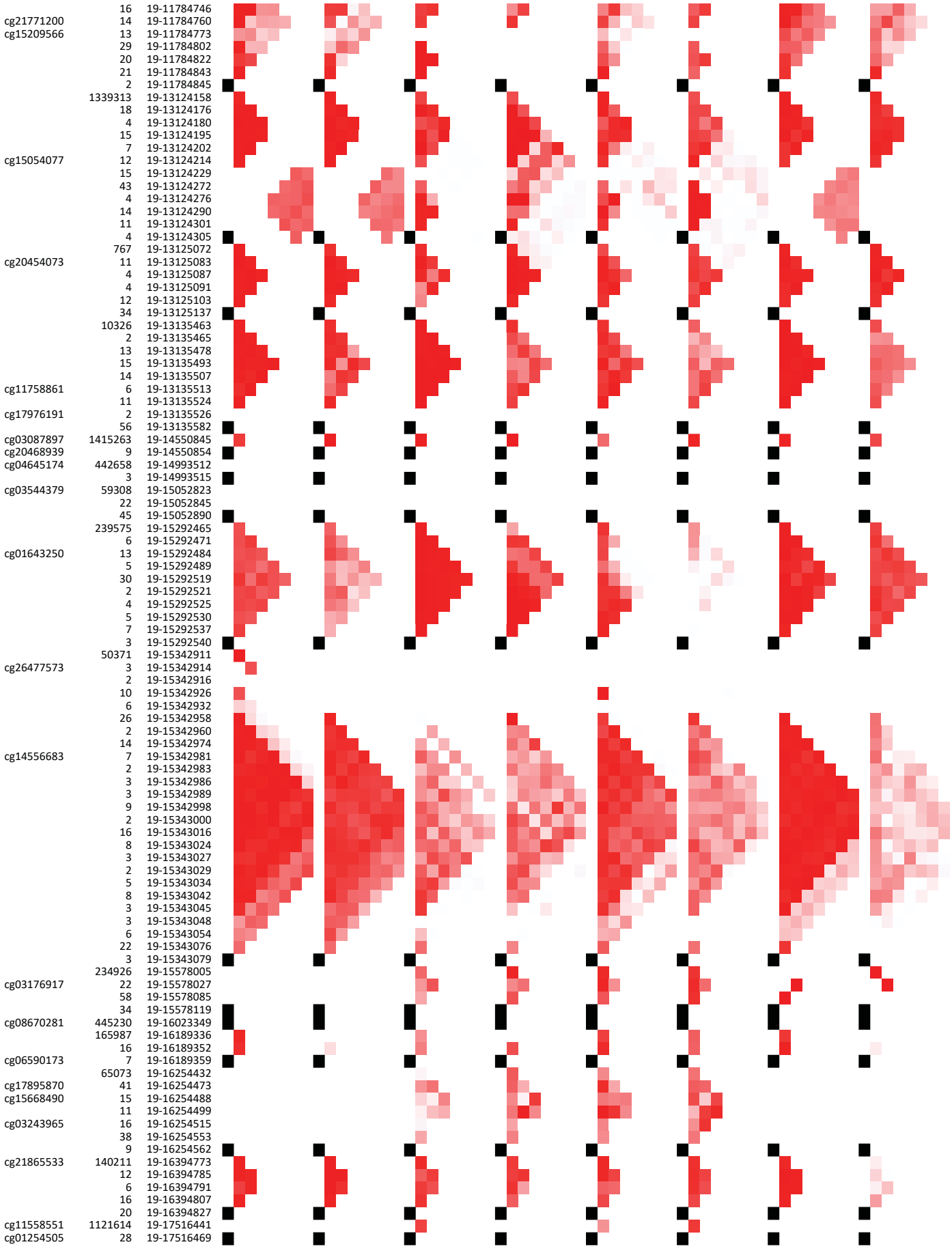

cg10708739 21 17-57465549
6 17-57465555
cg16936953 450109 17-57915664
cg12054453 52 17-57915716
cg01409343 23 17-57915739
cg18942579 33 17-57915772
27 17-57915799
312655 17-58228454
9 17-58228463
cg24983367 18 17-58228481
cg24741563 316853 17-58545334
5 17-58545339
1960366 17-60505705
cg27370673 20 17-60505725
cg21376454 1697805 17-62203530
195069 17-62398599
19 17-62398618
2 17-62398620
4 17-62398624
50 17-62398674
8 17-62398682
cg02867102 10 17-62398692
19 17-62398711
55 17-62398766
18 17-62398784
655077 17-63053861
30 17-63053891
cg24747122 37 17-63053928
8 17-63053936
2 17-63053938
3 17-63053941
9 17-63053950
cg17413194 45 17-63053995
10029925 17-73083920
6 17-73083926
4 17-73083930
3 17-73083933
9 17-73083942
23 17-73083965
3 17-73083968
8 17-73083976
cg21088715 201694 17-73285670
3 17-73285673
cg17037329 26 17-73285699
8 17-73285707
2 17-73285709
cg21577260 4 17-73285713
2 17-73285715
2 17-73285717
6 17-73285723
4 17-73285727
3 17-73285730
2 17-73285732
350420 17-73636152
7 17-73636159
10 17-73636169
cg05991442 14 17-73636183
8 17-73636191
3 17-73636194
16 17-73636210
cg24166450 612255 17-74248465
263011 17-74511476
2 17-74511478
cg05376810 14 17-74511492
39 17-74511531
15 17-74511546
7 17-74511553
3 17-74511556
772596 17-75284152
27 17-75284179
cg23051970 13 17-75284192
20 17-75284212
255682 17-75539894
cg01824933 6 17-75539900
cg11841704 12 17-75539912
cg26335251 8 17-75539920
7 17-75539927
6 17-75539933
23 17-75539956
27631 17-75567587
20 17-75567607
6 17-75567613
6 17-75567619
cg08857310 15 17-75567634
388526 17-75956160
8 17-75956168
cg00142402 21 17-75956189
13 17-75956202
cg18211066 19 17-75956221
34 17-75956255
161524 17-76117779
20 17-76117799
6 17-76117805
8 17-76117813
19 17-76117832
8 17-76117840
6 17-76117846
383515 17-76501361

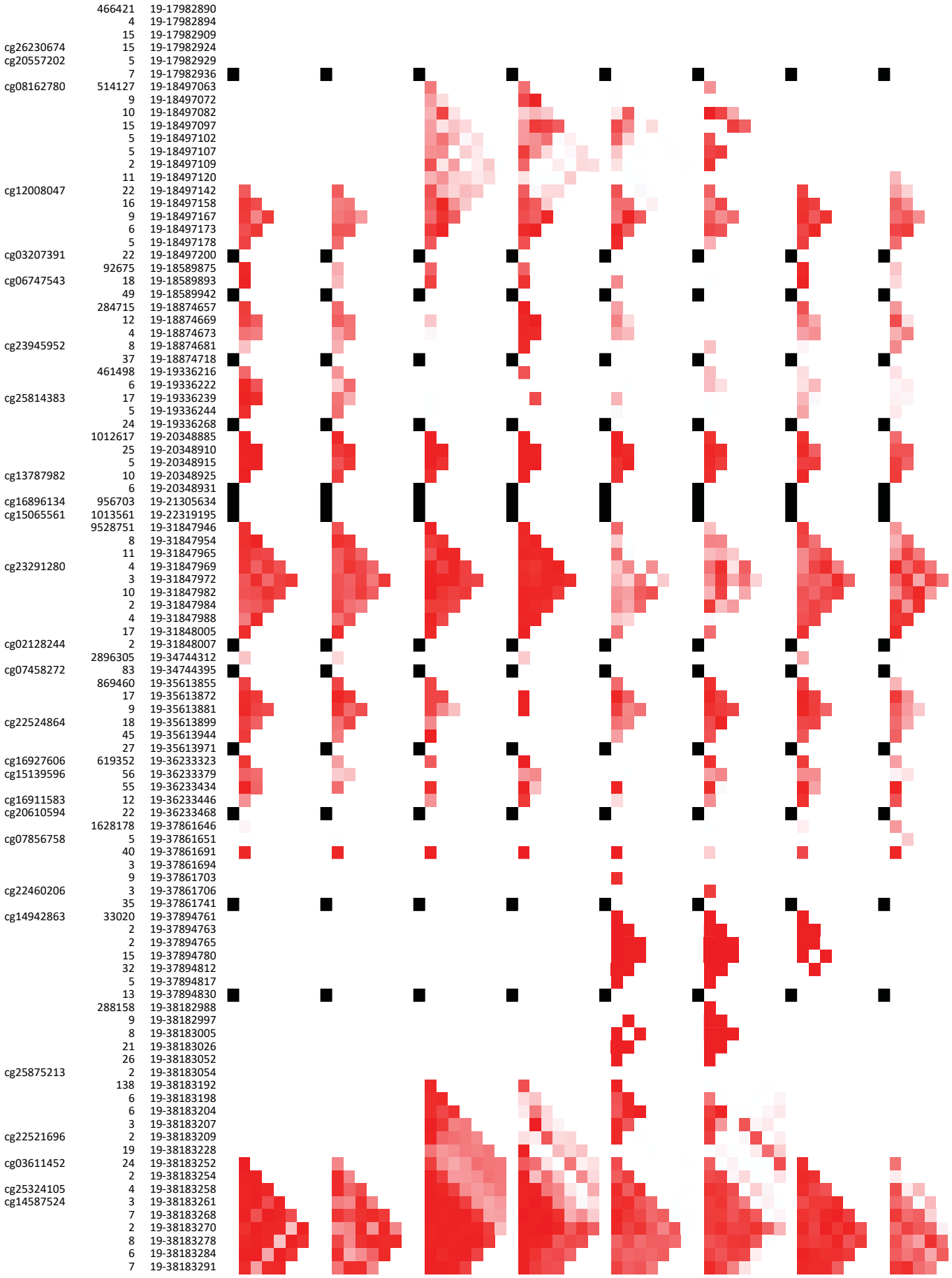

cg11267683 19 17-76501380
8 17-76501388
27 17-76501415
501665 17-77003080
cg08088171 32 17-77003112
cg03214622 112520 17-77115632
23 17-77115655
64012 17-77179667
2 17-77179669
2 17-77179671
2 17-77179673
8 17-77179681
17 17-77179698
2 17-77179700
cg10362542 8 17-77179708
4 17-77179712
4 17-77179716
4 17-77179720
cg03798566 604948 17-77784668
72 17-77784740
116485 17-77901225
5 17-77901230
17 17-77901247
6 17-77901253
5 17-77901258
8 17-77901266
10 17-77901276
9 17-77901285
10 17-77901295
5 17-77901300
cg23749482 16 17-77901316
15 17-77901331
37 17-77901368
335999 17-78237367
cg22749810 21 17-78237388
cg14175304 8 17-78237396
cg12221087 35 17-78237431
62 17-78237493
80343 17-78317836
7 17-78317843
46 17-78317889
2 17-78317891
681665 17-78999556
28 17-78999584
31 17-78999615
3 17-78999618
16 17-78999634
cg07459019 5 17-78999639
39 17-78999678
3 17-78999681
cg14621907 251573 17-79251254
22 17-79251276
cg22280238 46 17-79251322
4 17-79251326
10 17-79251336
3 17-79251339
11 17-79251350
cg24138691 3 17-79251353
6 17-79251359
20 17-79251379
17 17-79251396
10 17-79251406
2 17-79251408
592949 17-79844357
9 17-79844366
cg00259234 30 17-79844396
175100 17-80019496
9 17-80019505
13 17-80019518
cg20651080 7 17-80019525
9 17-80019534
7 17-80019541
240706 17-80260247
12 17-80260259
2 17-80260261
9 17-80260270
17 17-80260287
12 17-80260299
26 17-80260325
cg12229555 3 17-80260328
4 17-80260332
42 17-80260374
50 17-80260424
98384 17-80358808
6 17-80358814
4 17-80358818
cg11252953 10 17-80358828
18 17-80358846
cg25490145 3 17-80358849
18 17-80358867
cg21465176 8 17-80358875
29 17-80358904
8 17-80358912
6 17-80358918
3 17-80358921
10 17-80358931
13 17-80358944
cg06022562 438936 17-80797880

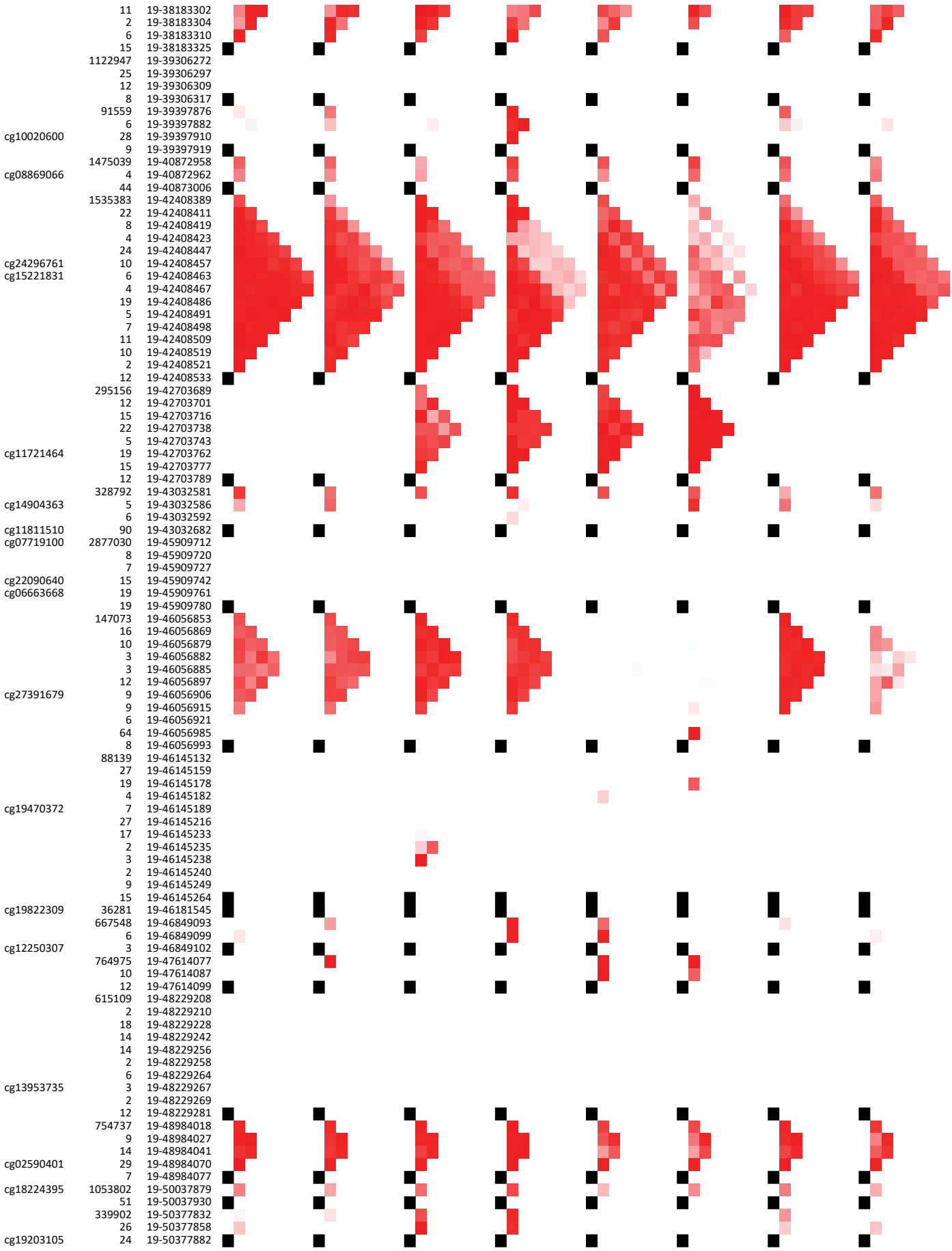

cg07114009 67 17-80797947
5 17-80797952
cg10828599 30 17-80797982
cg13616930 8 17-80797990
cg02384546 22 17-80798012
cg27285599 10 17-80798022
42 17-80798064
cg03854913 3 17-80798067
cg21338747 10 17-80798077
188 17-80798265
cg27354296 33 17-80798298
2 17-80798300
30 17-80798330
cg17852482 34723 17-80833053
64 17-80833117
6 17-80833123
23838 17-80856961
7 17-80856968
11 17-80856979
4 17-80856983
cg03678860 5 17-80856988
2 17-80856990
111103 17-80968093
27 17-80968120
9 17-80968129
4 17-80968133
16 17-80968149
cg05784951 12 17-80968161
495 17-80968656
7 17-80968663
cg04383154 3 17-80968666
18 17-80968684
3 17-80968687
18 17-80968705
cg14106046 37779 17-81006484
cg01826354 12 17-81006496
cg10344477 27 17-81006523
-75811356 18-5195167
cg19718771 33 18-5195200
cg06550462 349007 18-5544207
8 18-5544215
cg16924702 15 18-5544230
2 18-5544232
cg22335490 4 18-5544236
3 18-5544239
cg21978579 1376384 18-6920623
2 18-6920625
7 18-6920632
10 18-6920642
4 18-6920646
4 18-6920650
10 18-6920660
8 18-6920668
14 18-6920682
cg03403032 3 18-6920685
4 18-6920689
6905938 18-13826627
28 18-13826655
cg14219111 15 18-13826670
30 18-13826700
14 18-13826714
21024088 18-34850802
42 18-34850844
cg06263372 19 18-34850863
cg14053030 8554629 18-43405492
cg05451498 2980774 18-46386266
13 18-46386279
18 18-46386297
4 18-46386301
3 18-46386304
8 18-46386312
21 18-46386333
21 18-46386354
cg21410293 6 18-46386360
6 18-46386366
11 18-46386377
14 18-46386391
6 18-46386397
17 18-46386414
3 18-46386417
15 18-46386432
7061366 18-53447798
3 18-53447801
18 18-53447819
13 18-53447832
cg00228017 8 18-53447840
cg16340618 1656787 18-55104627
1425127 18-56529754
21 18-56529775
cg17675150 8 18-56529783
4614118 18-61143901
16 18-61143917
cg20490031 8 18-61143925
cg03285468 7 18-61143932
cg19022006 12 18-61143944
4 18-61143948
cg11862144 12 18-61143960
cg26411672 522460 18-61666420

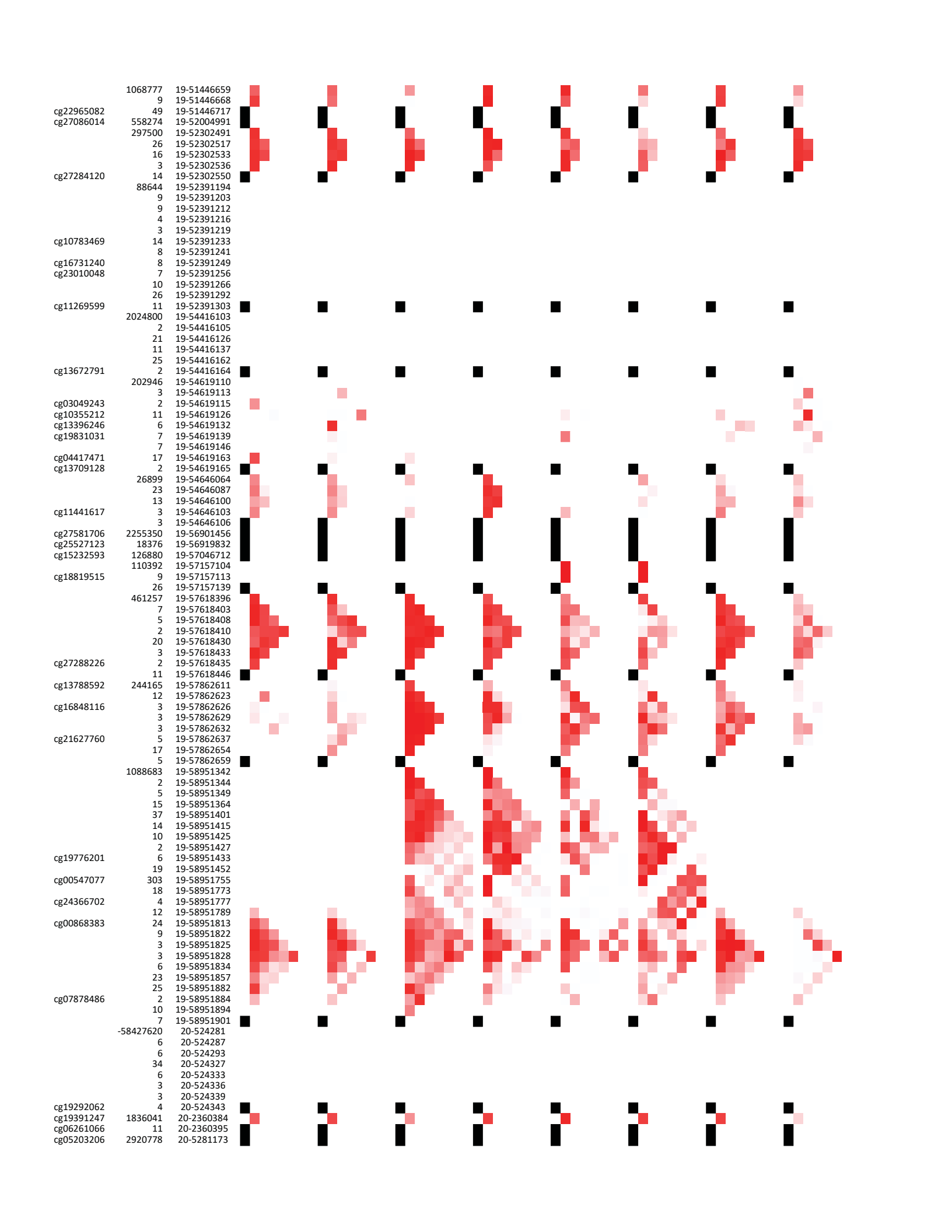

4722941 18-66389361
cg19283806 58 18-66389419
27 18-66389446
10828903 18-77218349
3 18-77218352
16 18-77218368
cg27019645 9 18-77218377
15 18-77218392
18 18-77218410
7 18-77218417
98889 18-77317306
31 18-77317337
cg02754224 5 18-77317342
234141 18-77551483
cg14549976 53 18-77551536
cg23966363 -76613907 19-937629
cg13646005 418674 19-1356303
cg23057220 11 19-1356314
18 19-1356332
17 19-1356349
139975 19-1496324
22 19-1496346
2 19-1496348
3 19-1496351
4 19-1496355
4 19-1496359
19 19-1496378
6 19-1496384
18 19-1496402
9 19-1496411
cg02300825 4 19-1496415
11 19-1496426
2 19-1496428
3 19-1496431
4 19-1496435
15 19-1496450
11 19-1496461
6 19-1496467
303400 19-1799867
40 19-1799907
cg19195419 27 19-1799934
6 19-1799940
cg07788437 11 19-1799951
2 19-1799953
4 19-1799957
37 19-1799994
6 19-1800000
6 19-1800006
9 19-1800015
26814 19-1826829
16 19-1826845
19 19-1826864
cg19222405 2 19-1826866
2 19-1826868
12 19-1826880
9 19-1826889
14 19-1826903
8 19-1826911
cg03924776 12 19-1826923
11 19-1826934
cg04584009 22 19-1826956
134328 19-1961284
cg22278901 5 19-1961289
19 19-1961308
15 19-1961323
28 19-1961351
cg19831356 106387 19-2067738
5 19-2067743
17697 19-2085440
17 19-2085457
cg21876918 25 19-2085482
193197 19-2278679
13 19-2278692
cg07595134 15 19-2278707
20 19-2278727
6 19-2278733
6 19-2278739
15 19-2278754
cg08399733 18 19-2278772
2 19-2278774
27 19-2278801
14 19-2278815
2 19-2278817
342135 19-2620952
48 19-2621000
23 19-2621023
558738 19-3179761
10 19-3179771
12 19-3179783
8 19-3179791
16 19-3179807
5 19-3179812
3 19-3179815
cg27125093 12 19-3179827
15 19-3179842
31 19-3179873
2 19-3179875
7 19-3179882

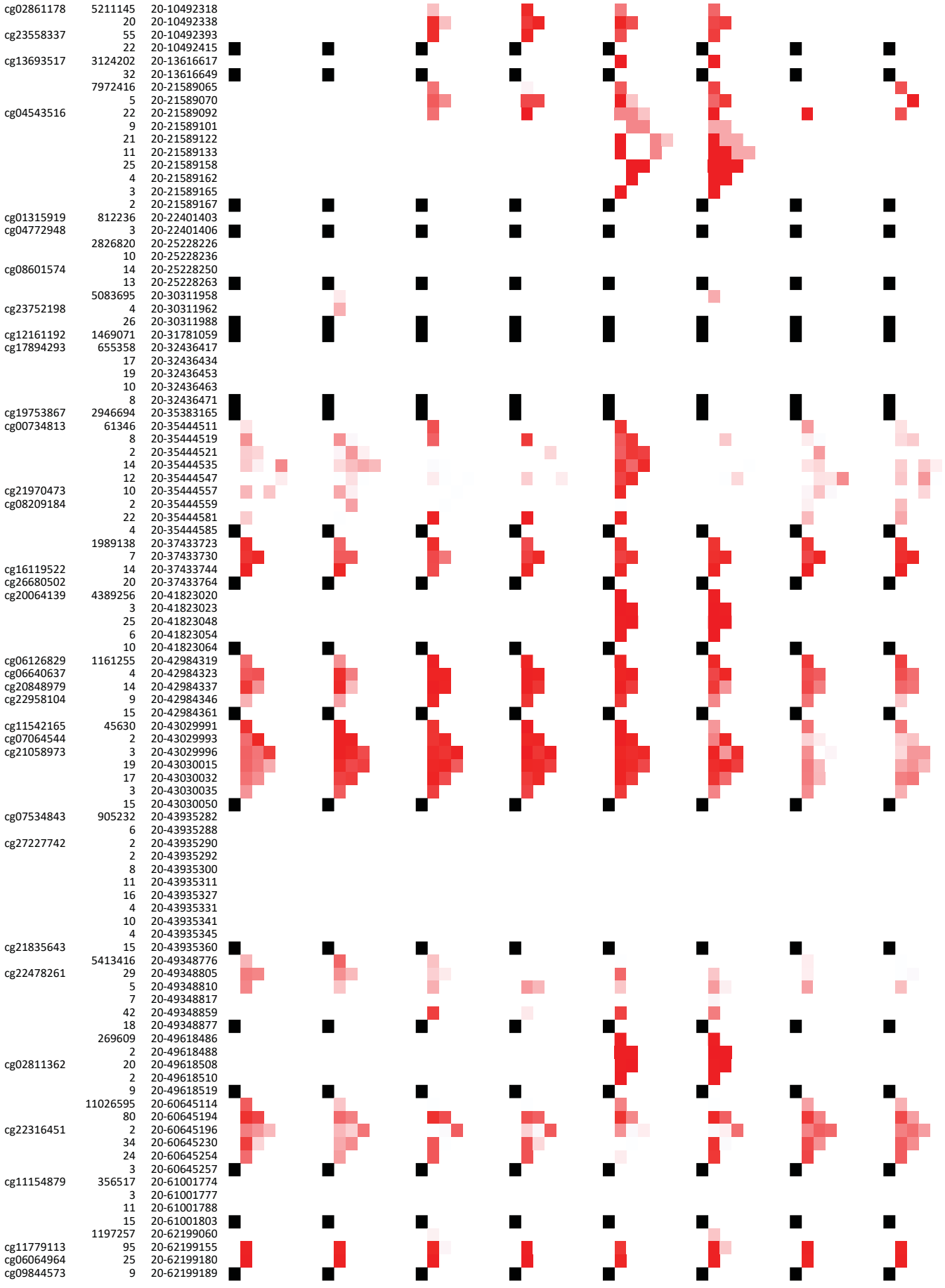

4 19-3179886
11 19-3179897
6 19-3179903
302036 19-3481939
cg14896559 17 19-3481956
cg03107987 3 19-3481959
6 19-3481965
cg13389652 19 19-3481984
12 19-3481996
20 19-3482016
177607 19-3659623
18 19-3659641
17 19-3659658
5 19-3659663
cg05233128 5 19-3659668
17 19-3659685
cg15610202 1108147 19-4767832
923340 19-5691172
4 19-5691176
2 19-5691178
3 19-5691181
7 19-5691188
cg11748640 7 19-5691195
100040 19-5791235
13 19-5791248
11 19-5791259
10 19-5791269
4 19-5791273
cg01100678 5 19-5791278
5 19-5791283
cg06240076 6 19-5791289
cg07997737 31340 19-5822629
1472421 19-7295050
20 19-7295070
3 19-7295073
12 19-7295085
3 19-7295088
9 19-7295097
cg19371795 9 19-7295106
1976761 19-9271867
9 19-9271876
8 19-9271884
10 19-9271894
12 19-9271906
cg10002088 4 19-9271910
cg15894653 6 19-9271916
cg01272599 607938 19-9879854
17 19-9879871
5 19-9879876
7 19-9879883
32 19-9879915
565550 19-10445465
cg17126555 50 19-10445515
cg23306063 18363 19-10463878
11 19-10463889
4 19-10463893
13 19-10463906
9 19-10463915
329 19-10464244
11 19-10464255
15 19-10464270
19 19-10464289
22 19-10464311
cg18038269 8 19-10464319
7 19-10464326
2 19-10464328
10 19-10464338
6 19-10464344
10 19-10464354
10 19-10464364
5 19-10464369
7 19-10464376
cg16068727 27015 19-10491391
11 19-10491402
cg21941105 2 19-10491404
13 19-10491417
cg15981620 13 19-10491430
6 19-10491436
174513 19-10665949
44 19-10665993
16 19-10666009
9 19-10666018
262475 19-10928493
2 19-10928495
2 19-10928497
2 19-10928499
2 19-10928501
4 19-10928505
2 19-10928507
4 19-10928511
5 19-10928516
17 19-10928533
cg23068797 15 19-10928548
3 19-10928551
6 19-10928557
856148 19-11784705
cg25394203 2 19-11784707
cg26590664 23 19-11784730

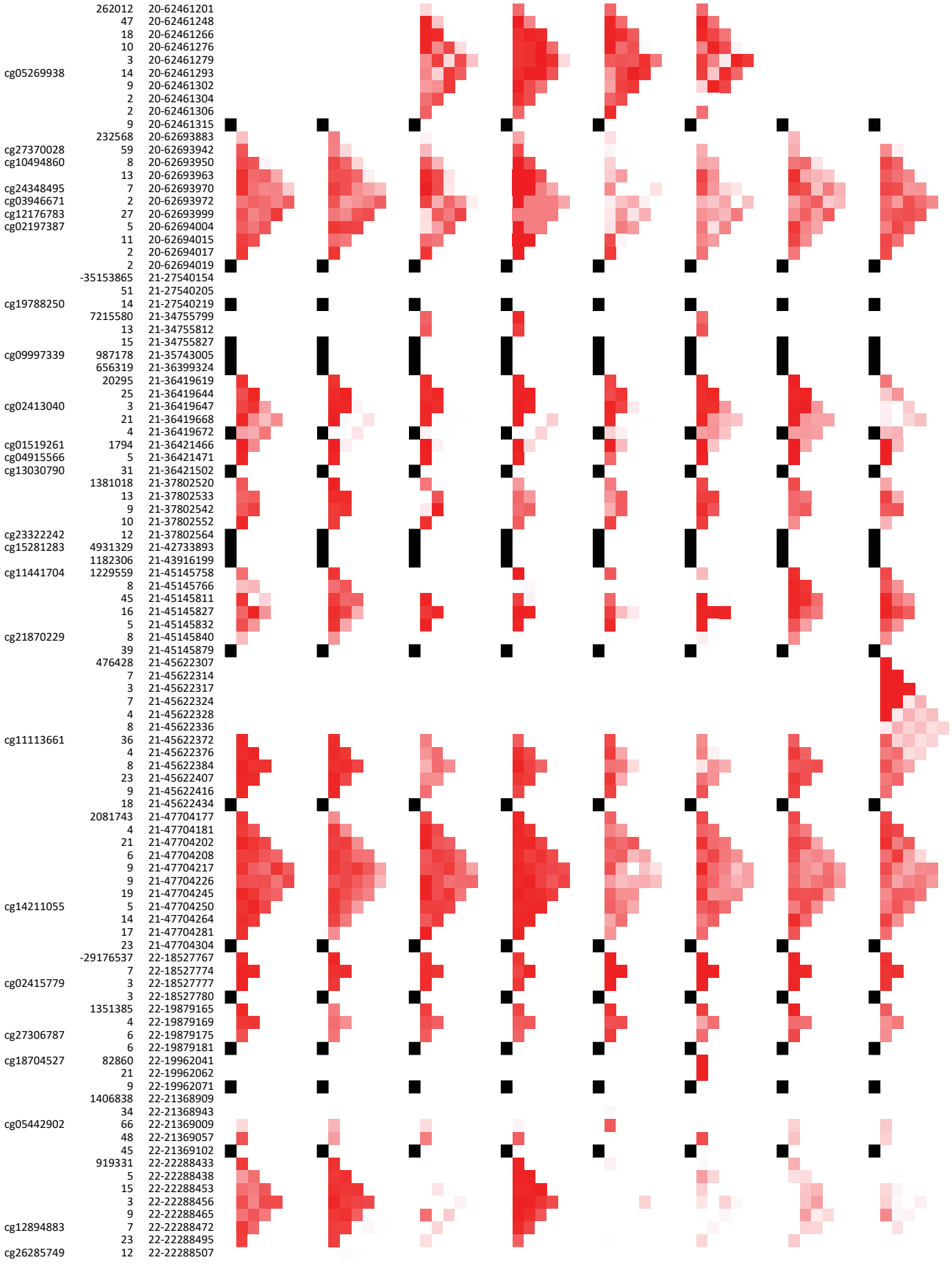

cg21771200
cg15209566
cg15054077
cg20454073
cg11758861
cg17976191
cg03087897
cg20468939
cg04645174
cg03544379
cg01643250
cg26477573
cg14556683
cg03176917
cg08670281
cg06590173
cg17895870
cg15668490
cg03243965
cg21865533
cg11558551
cg01254505

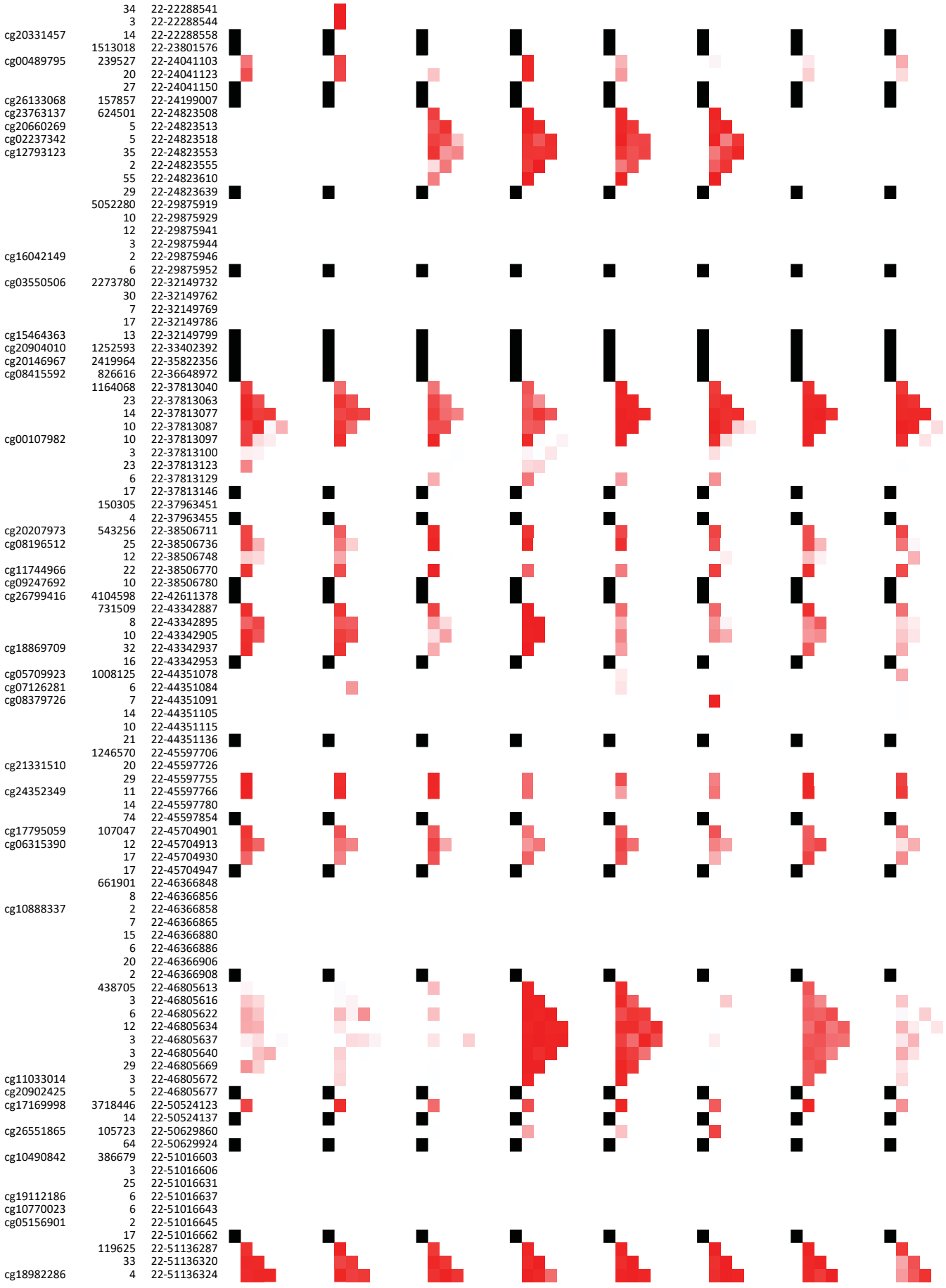

466421 19-17982890
4 19-17982894
15 19-17982909
cg26230674 15 19-17982924
cg20557202 5 19-17982929
7 19-17982936
cg08162780 514127 19-18497063
9 19-18497072
10 19-18497082
15 19-18497097
5 19-18497102
5 19-18497107
2 19-18497109
11 19-18497120
cg12008047 22 19-18497142
16 19-18497158
9 19-18497167
6 19-18497173
5 19-18497178
cg03207391 22 19-18497200
92675 19-18589875
cg06747543 18 19-18589893
49 19-18589942
284715 19-18874657
12 19-18874669
4 19-18874673
cg23945952 8 19-18874681
37 19-18874718
461498 19-19336216
6 19-19336222
cg25814383 17 19-19336239
5 19-19336244
24 19-19336268
1012617 19-20348885
25 19-20348910
5 19-20348915
cg13787982 10 19-20348925
6 19-20348931
cg16896134 956703 19-21305634
cg15065561 1013561 19-22319195
9528751 19-31847946
8 19-31847954
11 19-31847965
cg23291280 4 19-31847969
3 19-31847972
10 19-31847982
2 19-31847984
4 19-31847988
17 19-31848005
cg02128244 2 19-31848007
2896305 19-34744312
cg07458272 83 19-34744395
869460 19-35613855
17 19-35613872
9 19-35613881
cg22524864 18 19-35613899
45 19-35613944
27 19-35613971
cg16927606 619352 19-36233323
cg15139596 56 19-36233379
55 19-36233434
cg16911583 12 19-36233446
cg20610594 22 19-36233468
1628178 19-37861646
cg07856758 5 19-37861651
40 19-37861691
3 19-37861694
9 19-37861703
cg22460206 3 19-37861706
35 19-37861741
cg14942863 33020 19-37894761
2 19-37894763
2 19-37894765
15 19-37894780
32 19-37894812
5 19-37894817
13 19-37894830
288158 19-38182988
9 19-38182997
8 19-38183005
21 19-38183026
26 19-38183052
cg25875213 2 19-38183054
138 19-38183192
6 19-38183198
6 19-38183204
3 19-38183207
cg22521696 2 19-38183209
19 19-38183228
cg03611452 24 19-38183252
2 19-38183254
cg25324105 4 19-38183258
cg14587524 3 19-38183261
7 19-38183268
2 19-38183270
8 19-38183278
6 19-38183284
7 19-38183291


11 19-38183302
2 19-38183304
6 19-38183310
15 19-38183325
1122947 19-39306272
25 19-39306297
12 19-39306309
8 19-39306317
91559 19-39397876
6 19-39397882
cg10020600 28 19-39397910
9 19-39397919
1475039 19-40872958
cg08869066 4 19-40872962
44 19-40873006
1535383 19-42408389
22 19-42408411
8 19-42408419
4 19-42408423
24 19-42408447
cg24296761 10 19-42408457
cg15221831 6 19-42408463
4 19-42408467
19 19-42408486
5 19-42408491
7 19-42408498
11 19-42408509
10 19-42408519
2 19-42408521
12 19-42408533
295156 19-42703689
12 19-42703701
15 19-42703716
22 19-42703738
5 19-42703743
cg11721464 19 19-42703762
15 19-42703777
12 19-42703789
328792 19-43032581
cg14904363 5 19-43032586
6 19-43032592
cg11811510 90 19-43032682
cg07719100 2877030 19-45909712
8 19-45909720
7 19-45909727
cg22090640 15 19-45909742
cg06663668 19 19-45909761
19 19-45909780
147073 19-46056853
16 19-46056869
10 19-46056879
3 19-46056882
3 19-46056885
12 19-46056897
cg27391679 9 19-46056906
9 19-46056915
6 19-46056921
64 19-46056985
8 19-46056993
88139 19-46145132
27 19-46145159
19 19-46145178
4 19-46145182
cg19470372 7 19-46145189
27 19-46145216
17 19-46145233
2 19-46145235
3 19-46145238
2 19-46145240
9 19-46145249
15 19-46145264
cg19822309 36281 19-46181545
667548 19-46849093
6 19-46849099
cg12250307 3 19-46849102
764975 19-47614077
10 19-47614087
12 19-47614099
615109 19-48229208
2 19-48229210
18 19-48229228
14 19-48229242
14 19-48229256
2 19-48229258
6 19-48229264
cg13953735 3 19-48229267
2 19-48229269
12 19-48229281
754737 19-48984018
9 19-48984027
14 19-48984041
cg02590401 29 19-48984070
7 19-48984077
cg18224395 1053802 19-50037879
51 19-50037930
339902 19-50377832
26 19-50377858
cg19203105 24 19-50377882



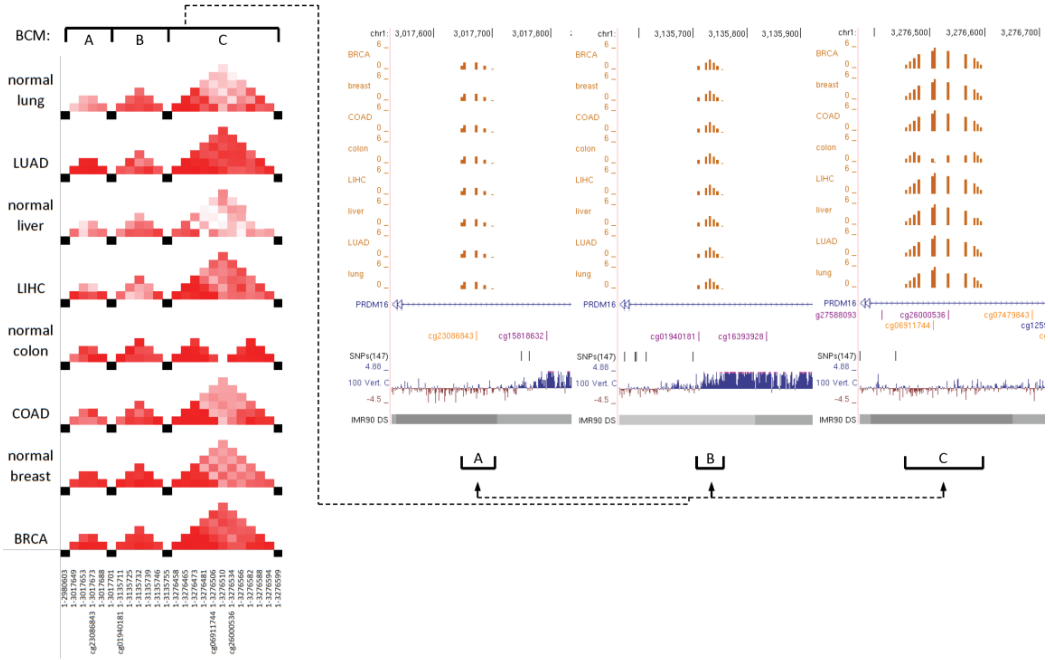

cg02861178 5211145 20-10492318
20 20-10492338
cg23558337 55 20-10492393
22 20-10492415
cg13693517 3124202 20-13616617
32 20-13616649
7972416 20-21589065
5 20-21589070
cg04543516 22 20-21589092
9 20-21589101
21 20-21589122
11 20-21589133
25 20-21589158
4 20-21589162
3 20-21589165
2 20-21589167
cg01315919 812236 20-22401403
cg04772948 3 20-22401406
2826820 20-25228226
10 20-25228236
cg08601574 14 20-25228250
13 20-25228263
5083695 20-30311958
cg23752198 4 20-30311962
26 20-30311988
cg12161192 1469071 20-31781059
cg17894293 655358 20-32436417
17 20-32436434
19 20-32436453
10 20-32436463
8 20-32436471
cg19753867 2946694 20-35383165
cg00734813 61346 20-35444511
8 20-35444519
2 20-35444521
14 20-35444535
12 20-35444547
cg21970473 10 20-35444557
cg08209184 2 20-35444559
22 20-35444581
4 20-35444585
1989138 20-37433723
7 20-37433730
cg16119522 14 20-37433744
cg26680502 20 20-37433764
cg20064139 4389256 20-41823020
3 20-41823023
25 20-41823048
6 20-41823054
10 20-41823064
cg06126829 1161255 20-42984319
cg06640637 4 20-42984323
cg20848979 14 20-42984337
cg22958104 9 20-42984346
15 20-42984361
cg11542165 45630 20-43029991
cg07064544 2 20-43029993
cg21058973 3 20-43029996
19 20-43030015
17 20-43030032
3 20-43030035
15 20-43030050
cg07534843 905232 20-43935282
6 20-43935288
cg27227742 2 20-43935290
2 20-43935292
8 20-43935300
11 20-43935311
16 20-43935327
4 20-43935331
10 20-43935341
4 20-43935345
cg21835643 15 20-43935360
5413416 20-49348776
cg22478261 29 20-49348805
5 20-49348810
7 20-49348817
42 20-49348859
18 20-49348877
269609 20-49618486
2 20-49618488
cg02811362 20 20-49618508
2 20-49618510
9 20-49618519
11026595 20-60645114
80 20-60645194
cg22316451 2 20-60645196
34 20-60645230
24 20-60645254
3 20-60645257
cg11154879 356517 20-61001774
3 20-61001777
11 20-61001788
15 20-61001803
1197257 20-62199060
cg11779113 95 20-62199155
cg06064964 25 20-62199180
cg09844573 9 20-62199189


262012 20-62461201
47 20-62461248
18 20-62461266
10 20-62461276
3 20-62461279
cg05269938 14 20-62461293
9 20-62461302
2 20-62461304
2 20-62461306
9 20-62461315
232568 20-62693883
cg27370028 59 20-62693942
cg10494860 8 20-62693950
13 20-62693963
cg24348495 7 20-62693970
cg03946671 2 20-62693972
cg12176783 27 20-62693999
cg02197387 5 20-62694004
11 20-62694015
2 20-62694017
2 20-62694019
-35153865 21-27540154
51 21-27540205
cg19788250 14 21-27540219
7215580 21-34755799
13 21-34755812
15 21-34755827
cg09997339 987178 21-35743005
656319 21-36399324
20295 21-36419619
25 21-36419644
cg02413040 3 21-36419647
21 21-36419668
4 21-36419672
cg01519261 1794 21-36421466
cg04915566 5 21-36421471
cg13030790 31 21-36421502
1381018 21-37802520
13 21-37802533
9 21-37802542
10 21-37802552
cg23322242 12 21-37802564
cg15281283 4931329 21-42733893
1182306 21-43916199
cg11441704 1229559 21-45145758
8 21-45145766
45 21-45145811
16 21-45145827
5 21-45145832
cg21870229 8 21-45145840
39 21-45145879
476428 21-45622307
7 21-45622314
3 21-45622317
7 21-45622324
4 21-45622328
8 21-45622336
cg11113661 36 21-45622372
4 21-45622376
8 21-45622384
23 21-45622407
9 21-45622416
18 21-45622434
2081743 21-47704177
4 21-47704181
21 21-47704202
6 21-47704208
9 21-47704217
9 21-47704226
19 21-47704245
cg14211055 5 21-47704250
14 21-47704264
17 21-47704281
23 21-47704304
-29176537 22-18527767
7 22-18527774
cg02415779 3 22-18527777
3 22-18527780
1351385 22-19879165
4 22-19879169
cg27306787 6 22-19879175
6 22-19879181
cg18704527 82860 22-19962041
21 22-19962062
9 22-19962071
1406838 22-21368909
34 22-21368943
cg05442902 66 22-21369009
48 22-21369057
45 22-21369102
919331 22-22288433
5 22-22288438
15 22-22288453
3 22-22288456
9 22-22288465
cg12894883 7 22-22288472
23 22-22288495
cg26285749 12 22-22288507

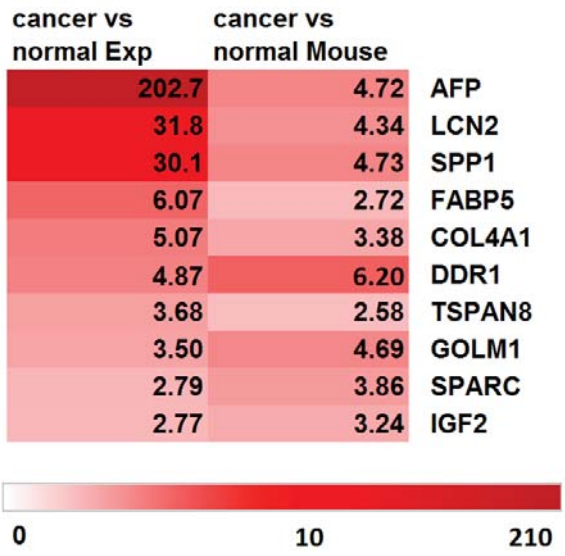


10	22-51136334
11	22-51136345
5	22-51136350

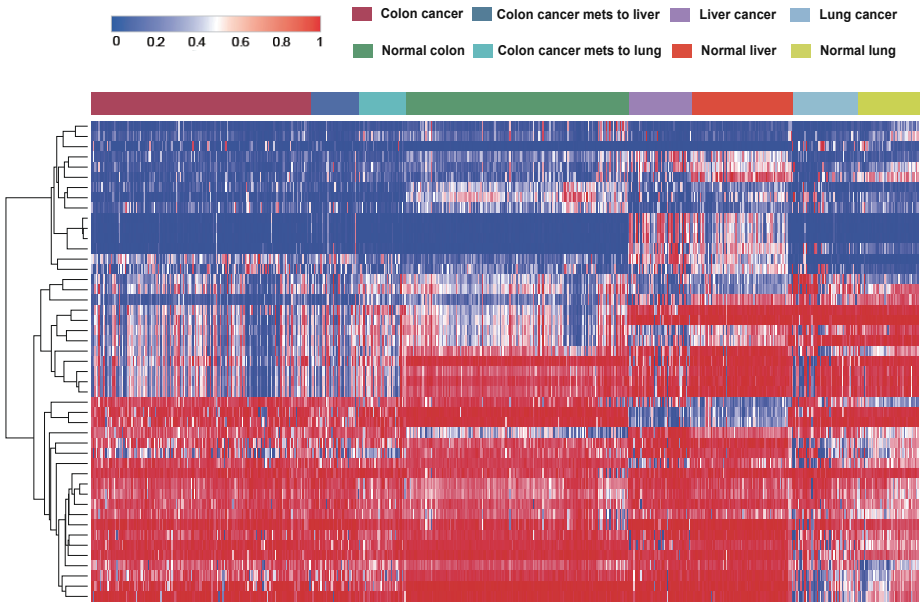
Suppl Fig 3


BCM:
A
B
C
normal lung
LUAD
normal liver
LIHC
normal colon
COAD
normal breast
BRCA
chr1: 3,017,600 3,017,700 3,017,800
chr1: 3,135,700 3,135,800 3,135,900
chr1: 3,276,500 3,276,600 3,276,700
BRCA
breast
COAD
colon
LIHC
liver
LUAD
lung
PRDM16
cg23086843
cg15818632
cg01940181
cg16393928
cg26000536
cg07479843
SNPs(147)
100 Vert. C
IMR90 DS
A
B
C

Suppl Fig4


cancer vs normal Exp
cancer vs normal Mouse
202.7 4.72 AFP
31.8 4.34 LCN2
30.1 4.73 SPP1
6.07 2.72 FABP5
5.07 3.38 COL4A1
4.87 6.20 DDR1
3.68 2.58 TSPAN8
3.50 4.69 GOLM1
2.79 3.86 SPARC
2.77 3.24 IGF2
0
10
210

Suppl Fig5


0
0.2
0.4
0.6
0.8
1
Colon cancer
Colon cancer mets to liver
Liver cancer
Lung cancer
Normal colon
Colon cancer mets to lung
Normal liver
Normal lung

Suppl Table 1: Summary of study cohorts

	Training cohort	Validation cohort1	Validation cohort2	Total
Breast Cancer	520	270	73	863
Normal Breast	65	32	45	142
Colorectal Cancer	275	129	164	568
Colorectal Ca Mets to Liver	0	0	30	30
Colorectal Ca Mets to Lung	0	0	34	34
Normal Colon/rectal	27	18	161	206
Liver Cancer	239	138	46	423
Normal Liver	32	18	73	123
Lung Cancer	585	254	47	886
Normal Lung	49	25	45	119
Total	1792	884	718	3394

Suppl Table 2: Clinicopathological Characteristics of TCGA cohort

	TCGA cohort			
Characteristic	**Breast Ca**	**Colon Ca**	**Liver Ca**	**Lung Ca**
Total (n)	**790**	**404**	**377**	**839**
Gender -no.(%)				
Female	**774(98)**	**187(46)**	**123(33)**	**337(40)**
Male	**9(1)**	**217(54)**	**254(67)**	**491(59)**
NA	**7(1)**	**0(0)**	**0**	**11(1)**
Age at diagnosis-yrs				
Mean	**59**	**65**	**61**	**66**
Range	**26-90**	**31-90**	**16-90**	**33-90**
Race -no.(%)				
White	**571(72)**	**275(68)**	**187(50)**	**628(75)**
Asian	**38(5)**	**12(3)**	**161(42)**	**13(1)**
Others	**181(23)**	**117(29)**	**29(8)**	**198(24)**
Smoking -no.(%)				
Non-smoker	**NA**	**NA**	**NA**	**79(10)**
Current reformed smoker	**NA**	**NA**	**NA**	**507(60)**
Current smoker	**NA**	**NA**	**NA**	**220(26)**
NA	**NA**	**NA**	**NA**	**33(4)**
Tumor status -no.(%)				
Tumor Free	**620(75)**	**248(61)**	**236(63)**	**499(60)**
With Tumor	**65(82)**	**99(25)**	**114(30)**	**165(19)**
NA	**105(13)**	**57(14)**	**27(7)**	**175(21)**
Vital status -no.(%)				
Alive	**713(90)**	**355(88)**	**286(76)**	**607(73)**
Dead	**70(9)**	**49(12)**	**91(24)**	**221(26)**
NA	**7(1)**	**0(0)**	**0**	**11(1)**
AICC stage -no.(%)				
Stage I	**127(16)**	**64(16)**	**175(46)**	**420(50)**
Stage II	**438(56)**	**147(36)**	**87(23)**	**253(30)**
Stage III	**200(25)**	**122(30)**	**86(23)**	**127(15)**
Stage IV	**11(1)**	**57(14)**	**6(2)**	**25(3)**
NA	**14(2)**	**14(4)**	**23(6)**	**13(2)**

Suppl Table 3: Clinicopathological Characteristics of Chinese cohort

	Chinese cohort					
Characteristic	**Breast Ca**	**Liver Ca**	**Lung Ca**	**Colorectal Ca**	**Colorectal Ca Mets to Liver**	**Colorectal Ca Mets to Lung**
Total (n)	**73**	**46**	**47**	**164**	**30**	**34**
Gender -no.(%)						
Female	**73(100)**	**8(17)**	**14(30)**	**52(32)**	**12(40))**	**9(26.5)**
Male	**0**	**38(83)**	**31(67)**	**74(45)**	**17(57)**	**25(73.5)**
NA	**0**	**0**	**2(4)**	**38(23)**	**1(3)**	0
Age at diagnosis-yrs						
Mean	**47**	**50**	**57**	**57**	**56**	**59**
Range	**29-63**	**21-60**	**37-83**	**27-73**	**30-77**	**32-81**
Race -no.(%)						
White	**0**	**0**	**0**	**0**	**0**	**0**
Asian	**73(100)**	**46(100)**	**47(100)**	**164(100)**	**30(100)**	**34(100)**
Others	**0**	**0**	**0**	**0**	**0**	**0**
Smoking -no.(%)						
Non-smoker	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Current reformed smoker	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Current smoker	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Tumor status-no.(%)						
Tumor Free	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
With Tumor	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Vital status -no.(%)						
Alive	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
Dead	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
NA	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**
AJCC stage -no.(%)						
Stage I	**3(4)**	**22(48)**	**NA**	**4(2)**	**0**	**0**
Stage II	**13(18)**	**3(6)**	**NA**	**39(24)**	**0**	**0**
Stage III	**9(12)**	**9(20)**	**NA**	**23(14)**	**0**	**0**
Stage IV	**2(3)**	**0**	**NA**	**48(29)**	**30(100)**	**34(100)**
NA	**46(63)**	**12(26)**	**NA**	**50(31)**	**0**	**0**

Supplemental Table 4: List of markers presented in at least 7 out of 10 random split analyses in a multinomial analysis

BRCA cancer	"cg01327147" "cg02680086" "cg04772948" "cg04917276" "cg05395187" "cg07493516" "cg08268679" "cg08549335" "cg09819083" "cg13976210" "cg14817783" "cg15412918" "cg18482112" "cg20069090" "cg24732563"
BRCA normal	"cg00886954" "cg23690893“
COAD cancer	"cg08088171" "cg13420112" "cg14642259" "cg20973720" "cg24583770" "cg27536151"
COAD normal	"cg24741563" "cg22979615“
LIHC cancer	"cg07360250" "cg08550839" "cg13499300"
LIHC normal	"ch.7.135065R" "cg14054357"
LUNG cancer	"cg01602690" "cg03993087" "cg04383154" "cg04933208" "cg05346286" "cg05784951" "cg06352912" "cg06800849" "cg07464206" "cg07903001" "cg08089301" "cg14419975" "cg15545942" "cg15963326" "cg17894293" "cg19924352" "cg20691722" "cg21845794" "cg24398479"
LUNG normal	"cg03169557" "cg04549287" "cg07649862" "cg08682723"

Supplemental Table 5. List of markers selected in 3 out of 10 training / test split analyses in survival analysis of breast cancer

LASSO	"cg01402068" "cg08858662" "cg10390979" "cg11145055" "cg14273607" "cg15145148" "cg23933602"
Boosting	"cg02837122" "cg08384322" "cg08858662" "cg11145055" "cg14273607" "cg18751588" "cg20661083" "cg25868675"
Overlapping markers	"cg08858662" "cg11145055" "cg14273607"

Supplemental Table 6. List of markers selected in 3 out of 10 training / test split analyses in survival analysis of lung cancer (LUAD/LUSC)

LASSO	"cg00221494" "cg00620629" "cg01043831" "cg01580888" "cg02504465“ "cg02880679" "cg02909790" "cg03266453" "cg03316864" "cg03998173“ "cg05216141" "cg05335315" "cg05338167" "cg05556202" "cg05589246“ "cg05910970" "cg06462703" "cg06583518" "cg07034561" "cg07559730“ "cg07997737" "cg08465774" "cg08980578" "cg09283635" "cg10003443“ "cg10171125" "cg10729531" "cg10821722" "cg11132751" "cg11225410" "cg11340260" "cg11946503" "cg12291552" "cg13140267" "cg13618372“ "cg13975369" "cg14047008" "cg14354749" "cg16042149" "cg16540704“ "cg16744741" "cg16984812" "cg17029168" "cg17095731" "cg17606785“ "cg18075299" "cg18275051" "cg19011603" "cg19107595" "cg19149785“ "cg19221959" "cg19297232" "cg19308222" "cg19371795" "cg19427610“ "cg19728382" "cg19928450" "cg20634573" "cg20895028" "cg21835643“ "cg22791453" "cg22918700" "cg23131007" "cg23389061" "cg23412777“ "cg23743114" "cg24335149" "cg24363955" "cg24402880" "cg24456340“ "cg25526759" "cg25657700" "cg26133068" "cg27558666" "cg27651218"
Boosting	"cg00221494" "cg00620629" "cg01043831" "cg01580888" "cg02909790“ "cg03266453" "cg03316864" "cg05335315" "cg05338167" "cg05556202“ "cg05910970" "cg07997737" "cg08465774" "cg09283635" "cg10003443“ "cg10171125" "cg10729531" "cg11132751" "cg11225410" "cg11340260“ "cg11946503" "cg12291552" "cg12985418" "cg13140267" "cg13482233“ "cg13539030" "cg13618372" "cg14354749" "cg14839257" "cg15522957" "cg16744741" "cg16984812" "cg17029168" "cg17095731" "cg17606785“ "cg17965019" "cg19149785" "cg19221959" "cg19297232" "cg19371795“ "cg19728382" "cg19928450“ "cg20895028" "cg22791453"

	"cg23389061“ "cg23547073" "cg24335149" "cg24363955" "cg24456340" "cg25526759“ "cg25657700" "cg26133068"
Overlapping markers	"cg00221494" "cg00620629" "cg01043831" "cg01580888" "cg02909790“ "cg03266453" "cg03316864" "cg05335315" "cg05338167" "cg05556202“ "cg05910970" "cg07997737" "cg08465774" "cg09283635" "cg10003443“ "cg10171125" "cg10729531" "cg11132751" "cg11225410" "cg11340260“ "cg11946503" "cg12291552" "cg13140267" "cg13618372" "cg14354749“ "cg16744741" "cg16984812" "cg17029168" "cg17095731" "cg17606785“ "cg19149785" "cg19221959" "cg19297232" "cg19371795" "cg19728382“ "cg19928450" "cg20895028" "cg22791453" "cg23389061" "cg24335149“ "cg24363955" "cg24456340" "cg25526759" "cg25657700" "cg26133068

Supplementary Table 7: Positive fold changes (FC) in expression of top ten genes of interest in human LIHC versus normal liver tissue and its correlation in mouse LIHC

gene	markerName	location	dm Ca vs No	liverCancer MethMeans	meanNormal LiverMeth	cancer vs normal Exp	cancer vs normal Mouse
AFP	cg10778295	promoter	-7%	81%	88%	202.68	4.7169
LCN2	cg13518265	promoter	-7%	70%	78%	31.85	4.3429
SPP1	cg00088885	promoter	-22%	49%	72%	30.08	4.7306
FABP5	cg01962077	promoter	-12%	74%	87%	6.07	2.7162
COL4A1	cg27546237	promoter	-1%	16%	17%	5.07	3.376
TSPAN8	cg27304204	promoter	-18%	46%	63%	4.87	6.2049
DDR1	cg00934322	promoter	-23%	43%	66%	3.68	2.5785
GOLM1	cg13925220	promoter	-9%	80%	88%	3.50	4.6902
SPARC	cg13319042	promoter	-22%	38%	60%	2.79	3.8594
IGF2	cg14890224	promoter	-21%	49%	69%	2.77	3.2437

Supplemental Table 8: Breast cancer: validation and prediction performance in survival analysis

LASSO	ρ^2 on training	0.86 (min: 0.59 - max: 0.98)
	c-index on test	0.63 (min: 0.56 - max: 0.71)
Boosting	ρ^2 on training	0.90 (min: 0.75 - max: 0.99)
	c-index on test	0.61 (min: 0.54 - max: 0.68)
log-rank LASSO	5/10 p-value < 0.05	
log-rank Boosting	3/10 p-value < 0.05	

Supplemental Table 9: Lung cancer: validation and prediction performance in survival analysis

LASSO	ρ^2 on training	0.91 (min: 0.80 - max: 0.96)
	c-index on test	0.57 (min: 0.53 - max: 0.63)
Boosting	ρ^2 on training	0.93 (min: 0.46 - max: 0.95)
	c-index on test	0.64 (min: 0.50 - max: 0.66)
log-rank LASSO	2/10 p-value < 0.05	
log-rank Boosting	5/10 p-value < 0.05	