

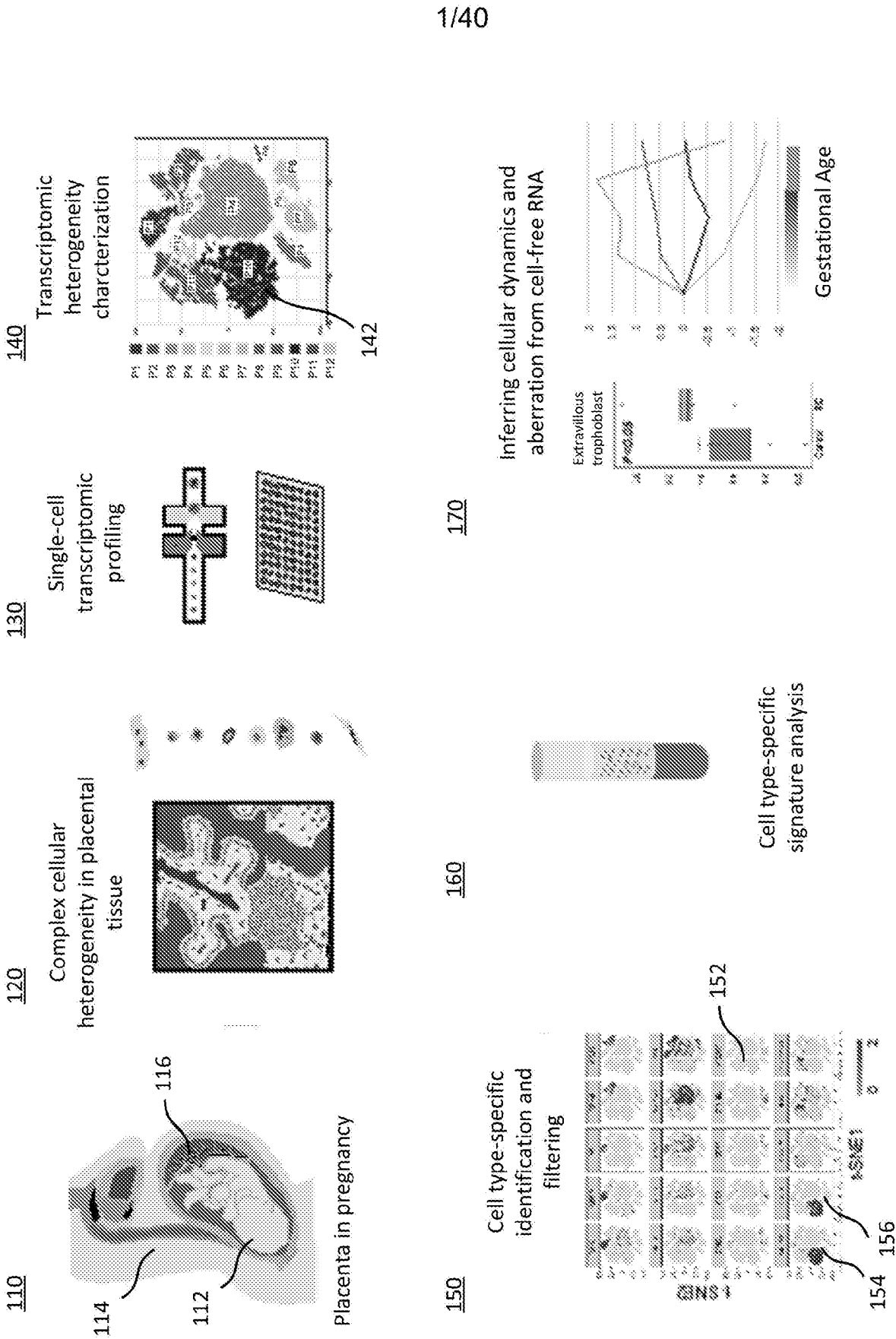


FIG. 1

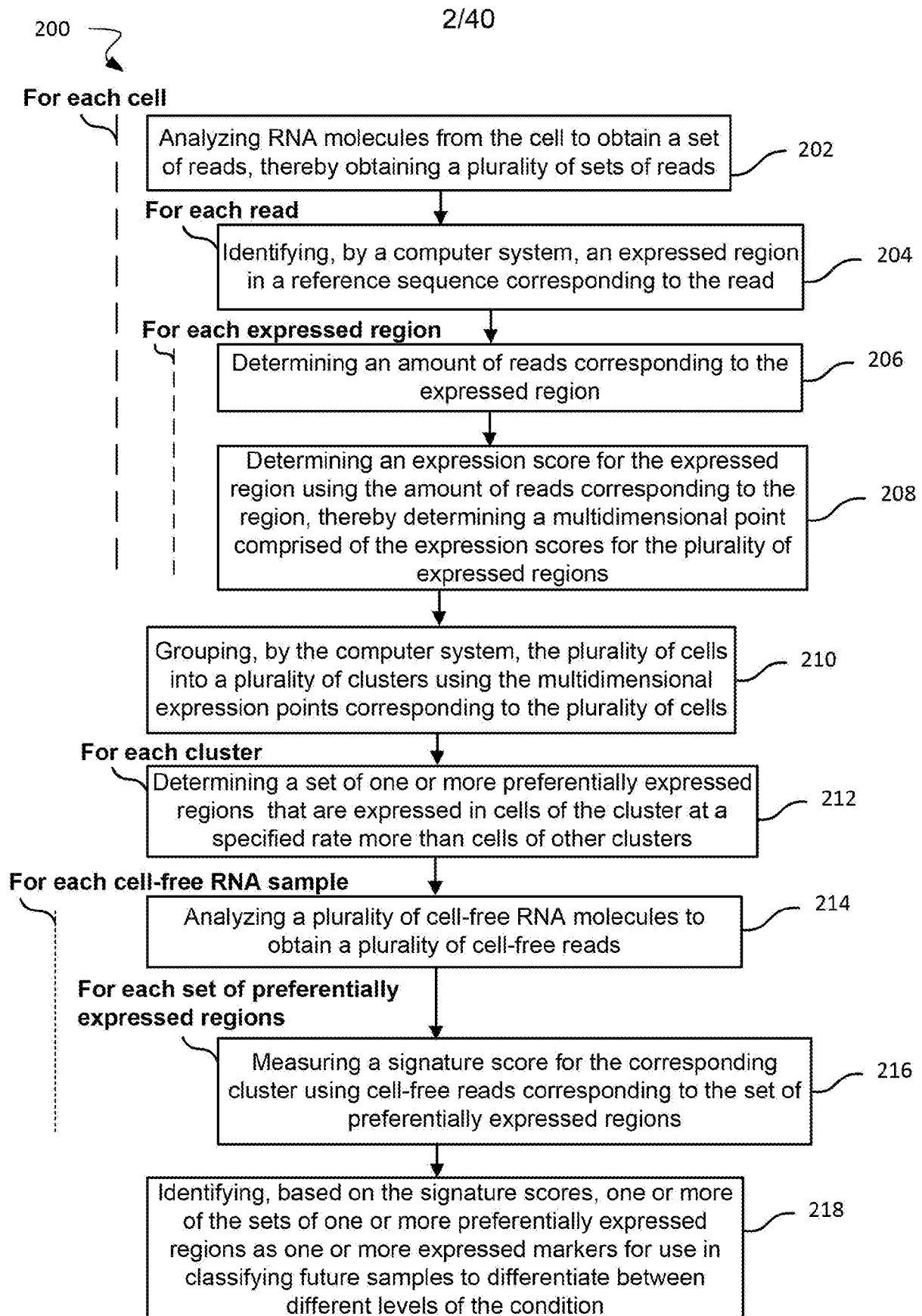


FIG. 2

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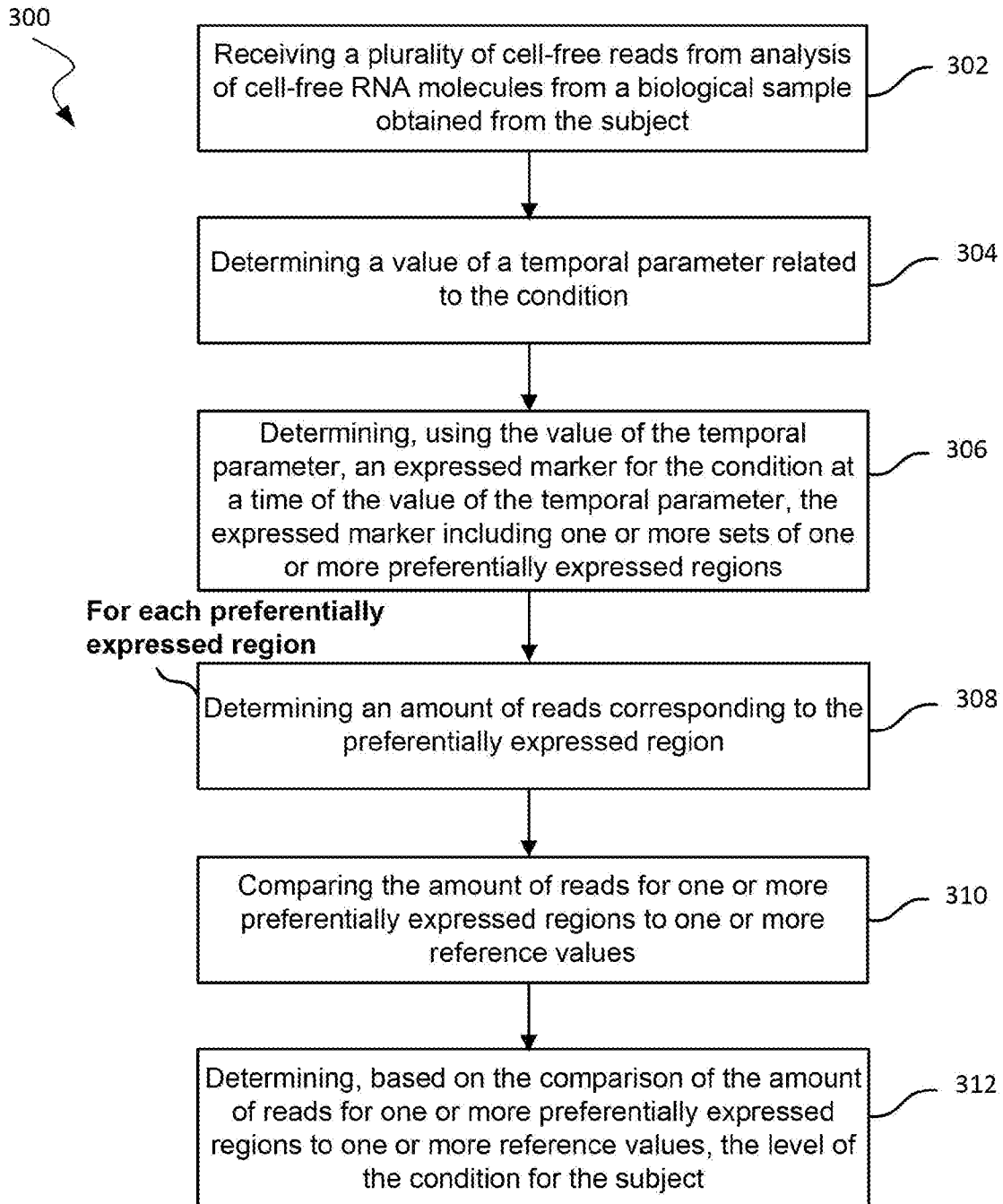


FIG. 3

	PN1	PN2	PN3C	PN3P	PN3C	PN3P	PE1	PE2	PE3	PE4
Sampling distance relative to cord insertion	5cm	5cm	5cm	Placenta periphery	5cm	Placenta periphery	5cm	5cm	5cm	5cm
Number of valid cells in library	3151	7621	2754	1391	2653	2948	5849	2294	4669	5167
Mean raw reads per cell	44184.5	36732.4	34365	64729.6	26200.2	20430.2	36319	68860	19309	33971
Mean mapped reads per cell	22710	19016.5	20708.4	36829.1	16613.4	12949.1	22990	41178.3	12512.2	20654.4
Median genes per cell	1031	1333	1019	792	922	939	1537	1145	1133	1468
Gestational age (week)	38	38	38 ¹²	38 ¹²	38	38	31 ¹²	32 ¹⁴	29 ¹⁶	28 ¹¹

FIG. 4

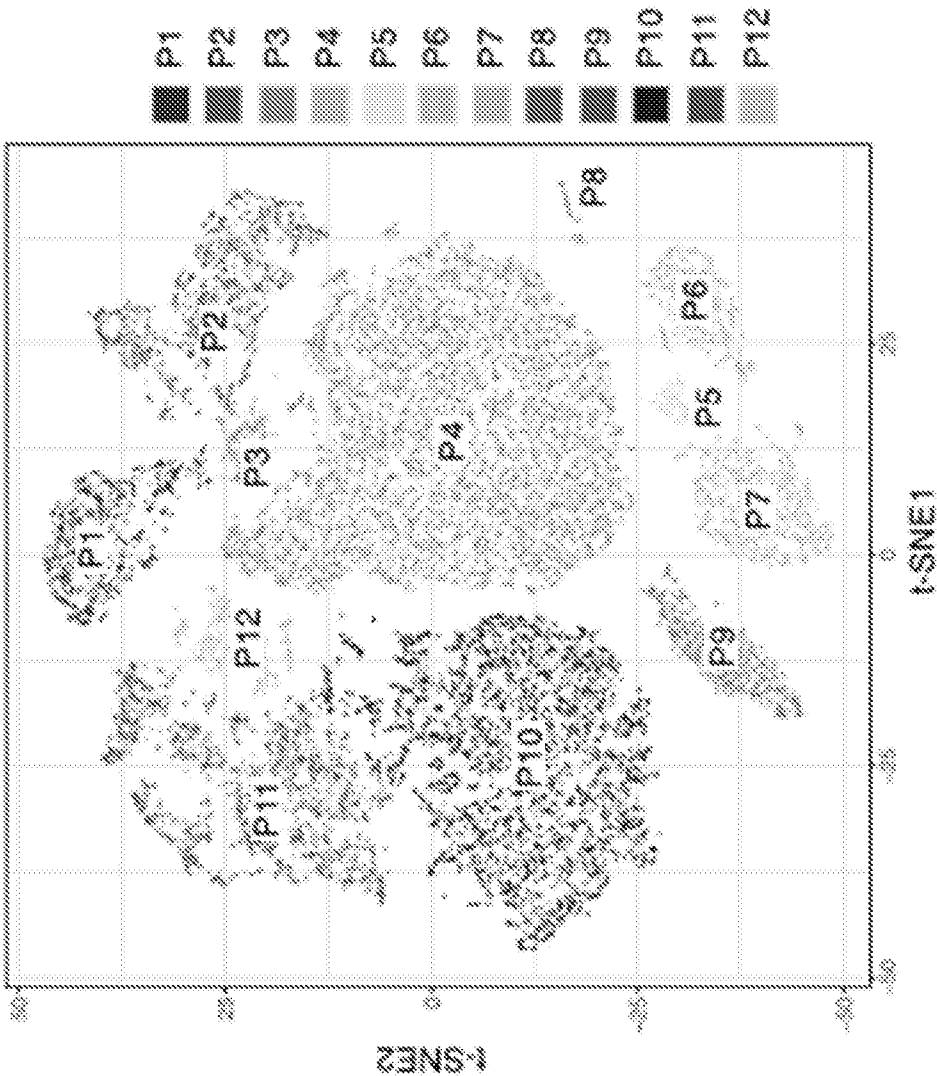


FIG. 5

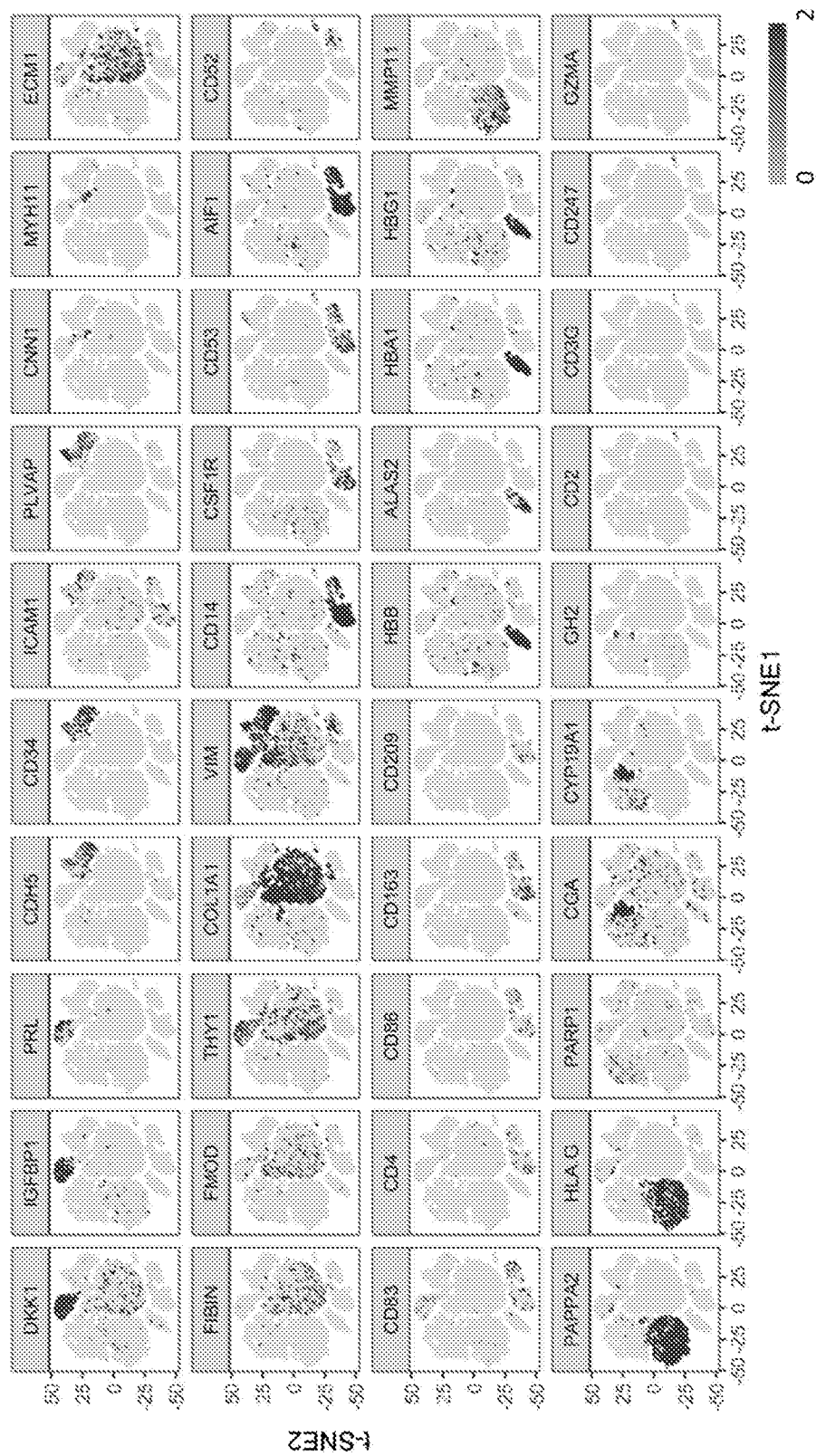


FIG. 6

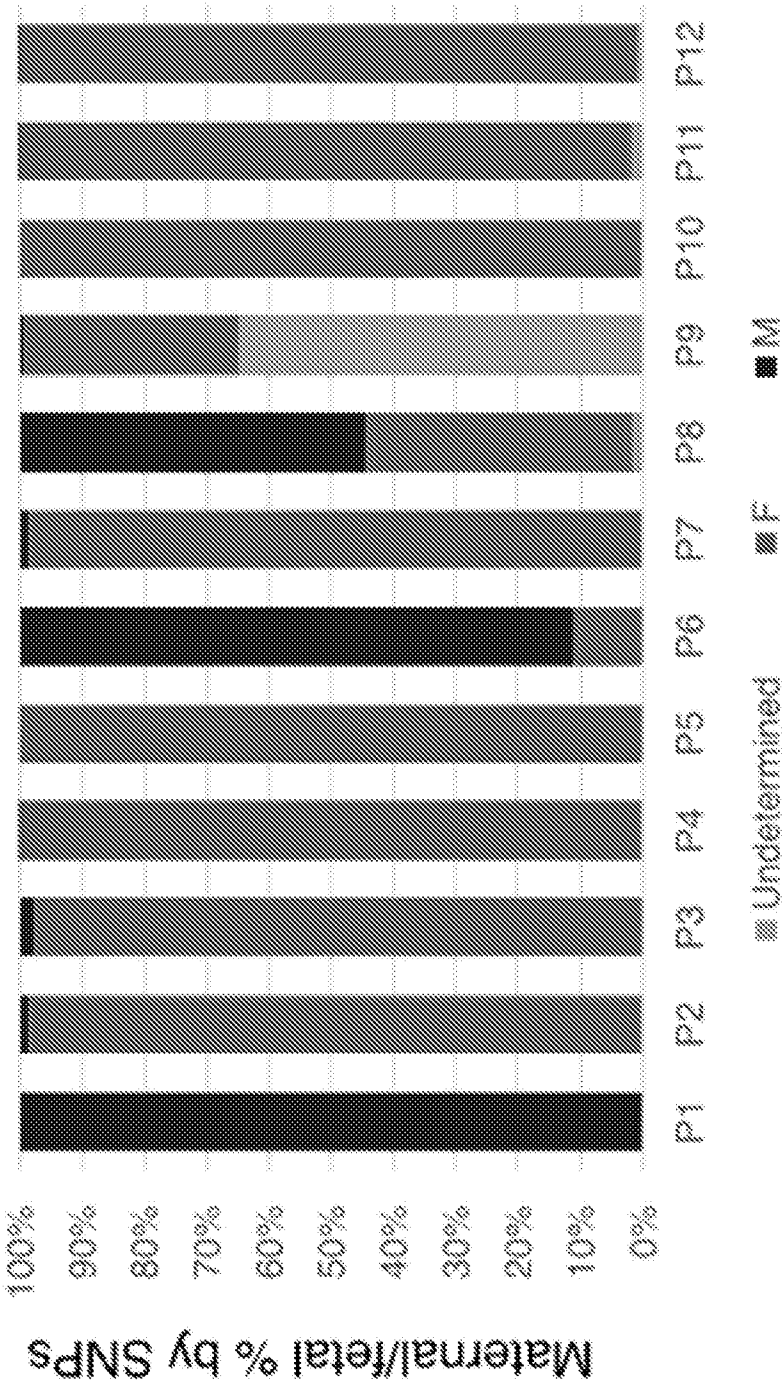


FIG. 7A

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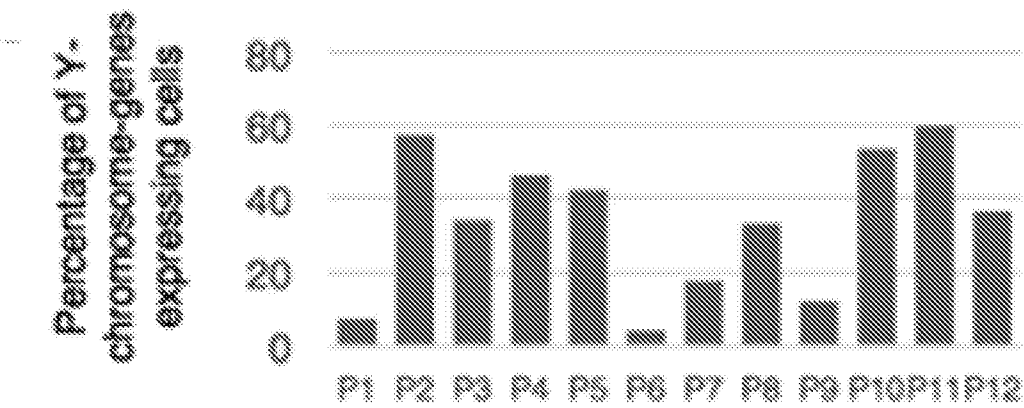


FIG. 7B

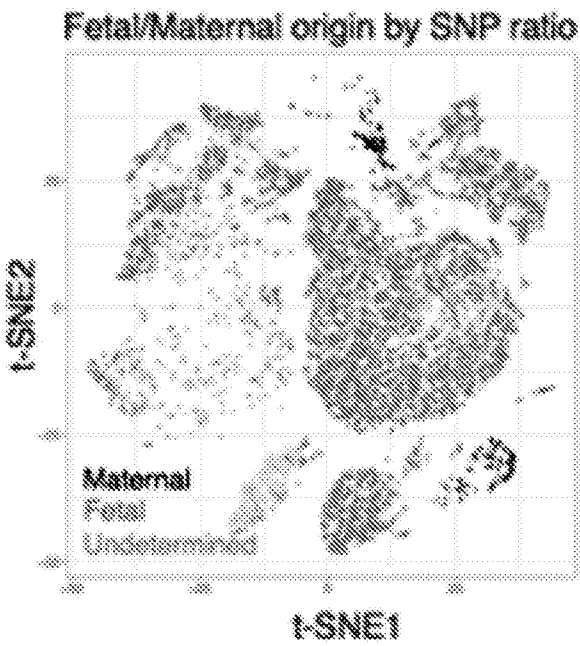


FIG. 7C

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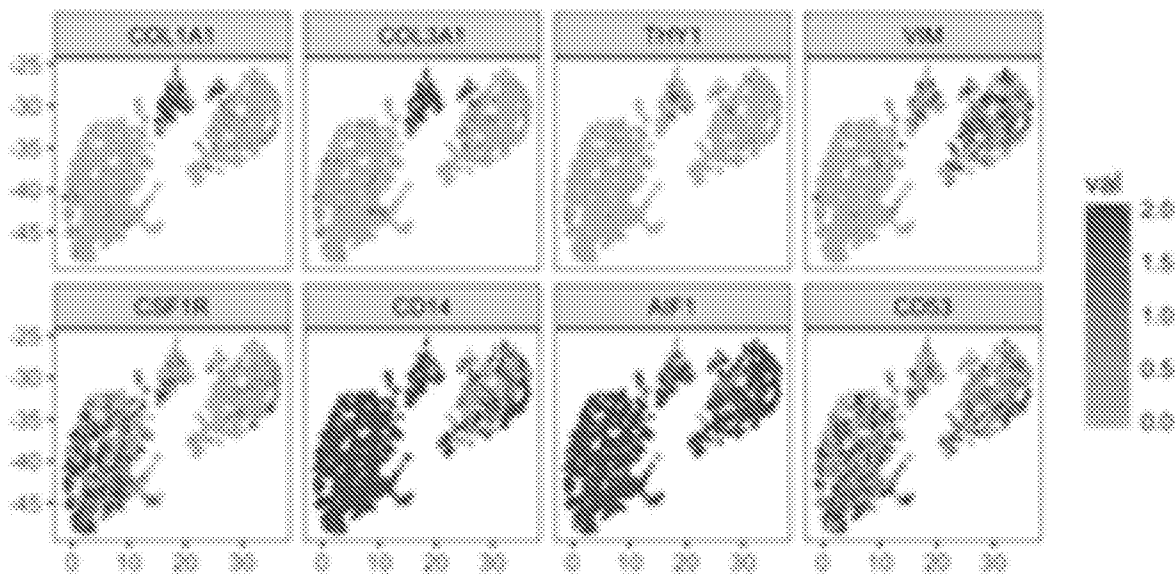


FIG. 7D

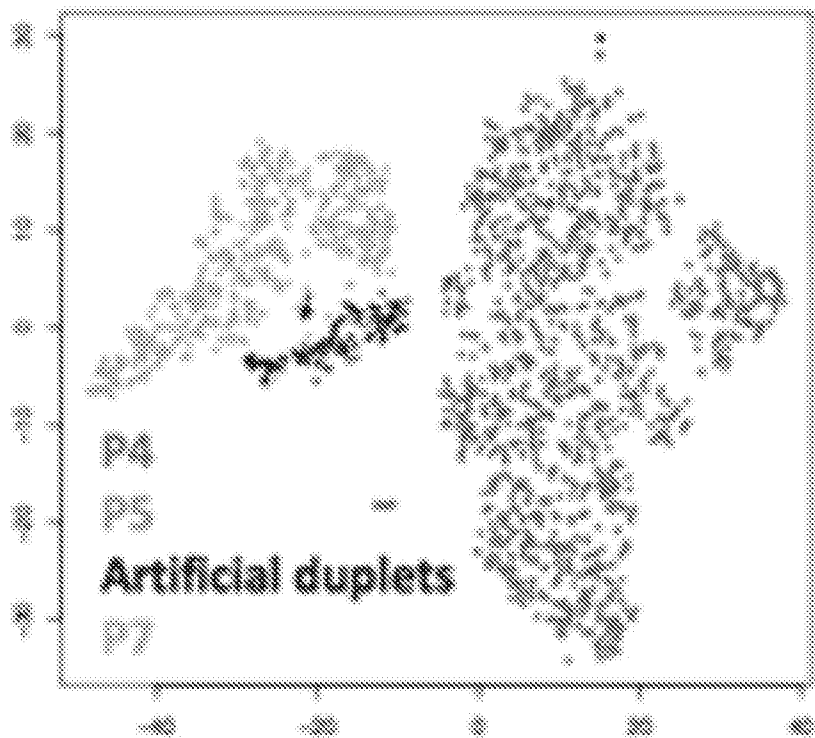


FIG. 7E

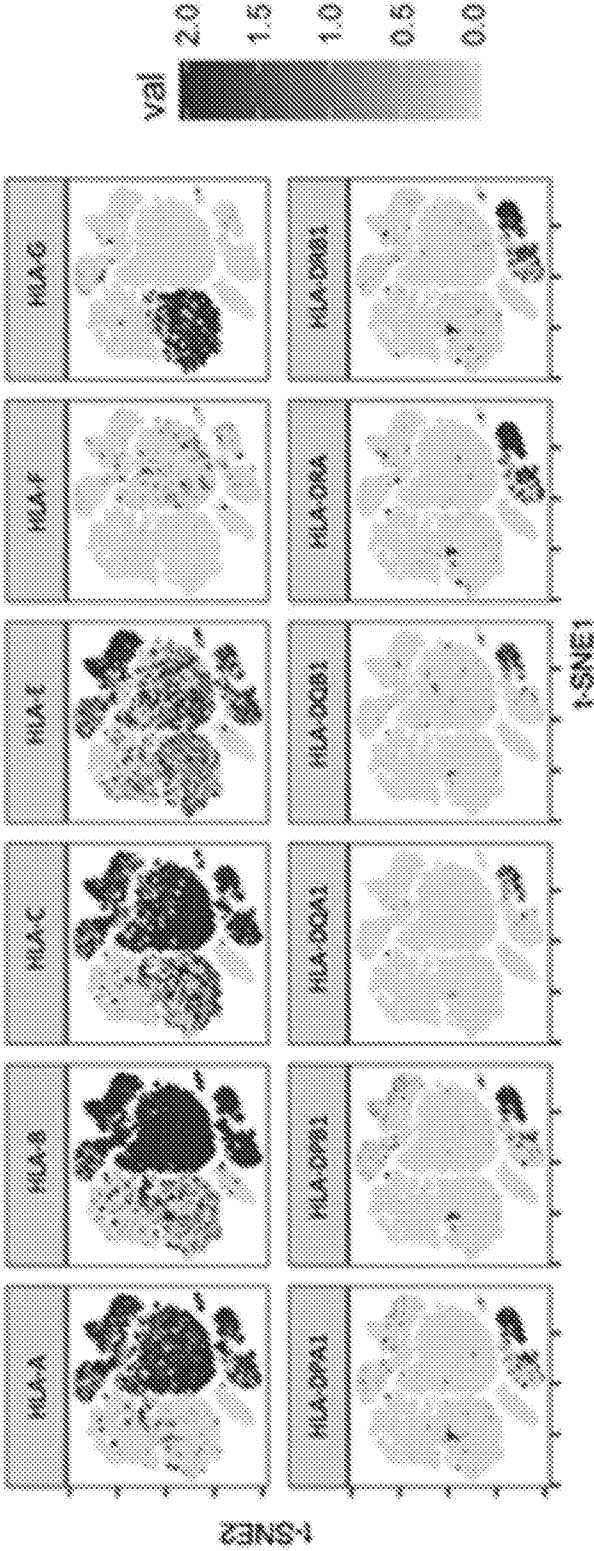


FIG. 7F

Cluster	Source	Type
P1	Maternal	Decidual cells
P2	Fetal	Vascular endothelial cells
P3	Fetal	Vascular smooth muscle cells
P4	Fetal	Stromal cells
P5	-	Multiplet clusters
P6	Maternal	Decidual cells
P7	Fetal	Macrophage (trophoblast cells)
P8	Mixed	T cells
P9	Mixed	Erythroblasts
P10	Fetal	Extravillous trophoblast cells
P11	Fetal	Cytotrophoblast cells
P12	Fetal	Syncytiotrophoblast cells

FIG. 7G

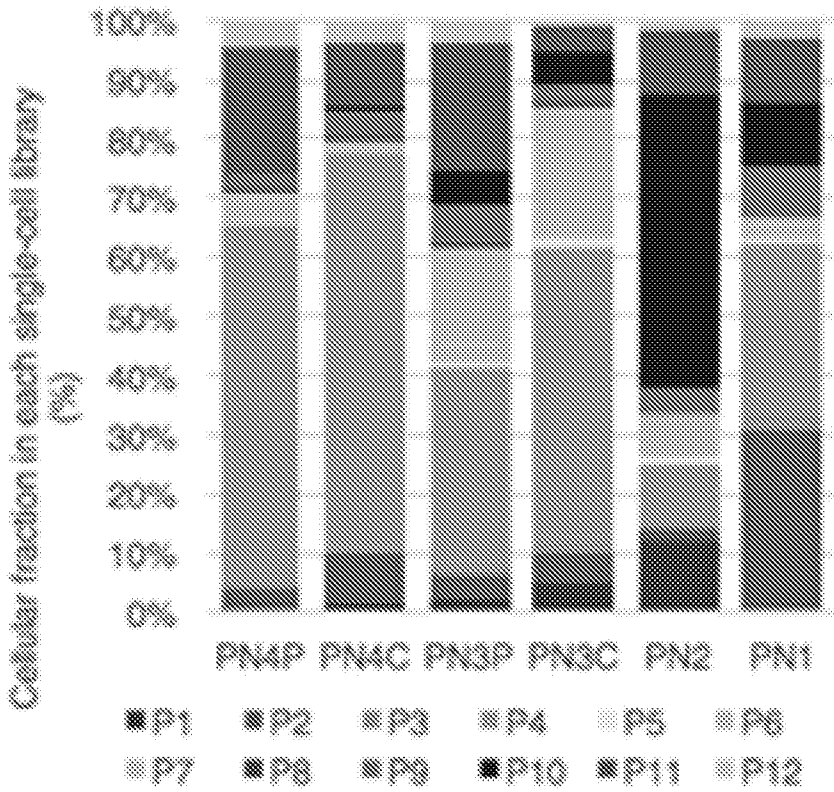


FIG. 7H

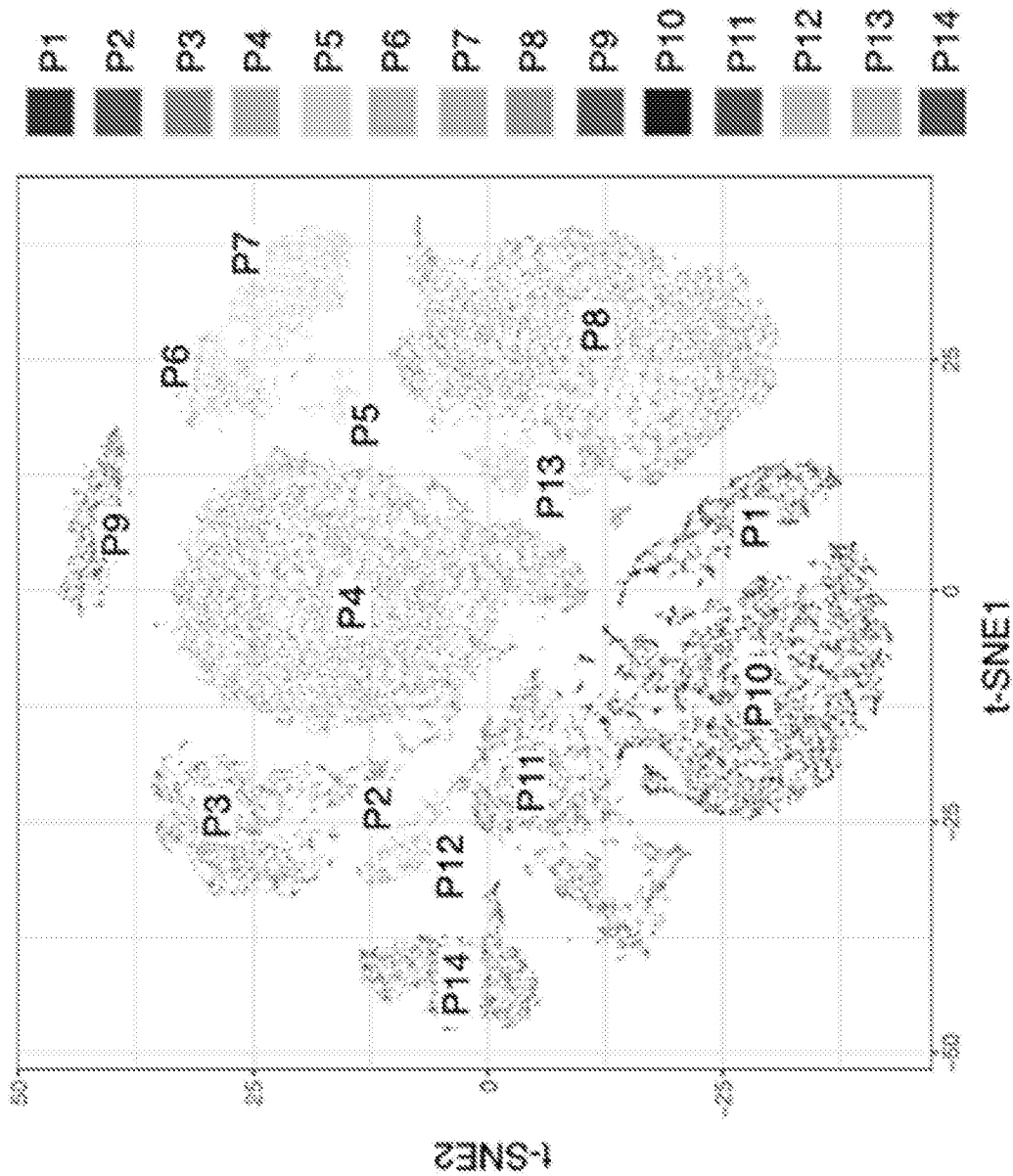


FIG. 8

Cluster	Type
P1	Decidual cells
P2	Endothelial cells
P3	Vascular smooth muscle cells
P4	Stromal cells
P5	Multiplets cluster
P6	Dendritic cells
P7	Hofbauer cells
P8	T cells
P9	Erythroblasts
P10	Extravillous trophoblast cells
P11	Cytotrophoblast cells
P12	Syncytiotrophoblast cells
P13	B cells
P14	Monocytes

FIG. 9

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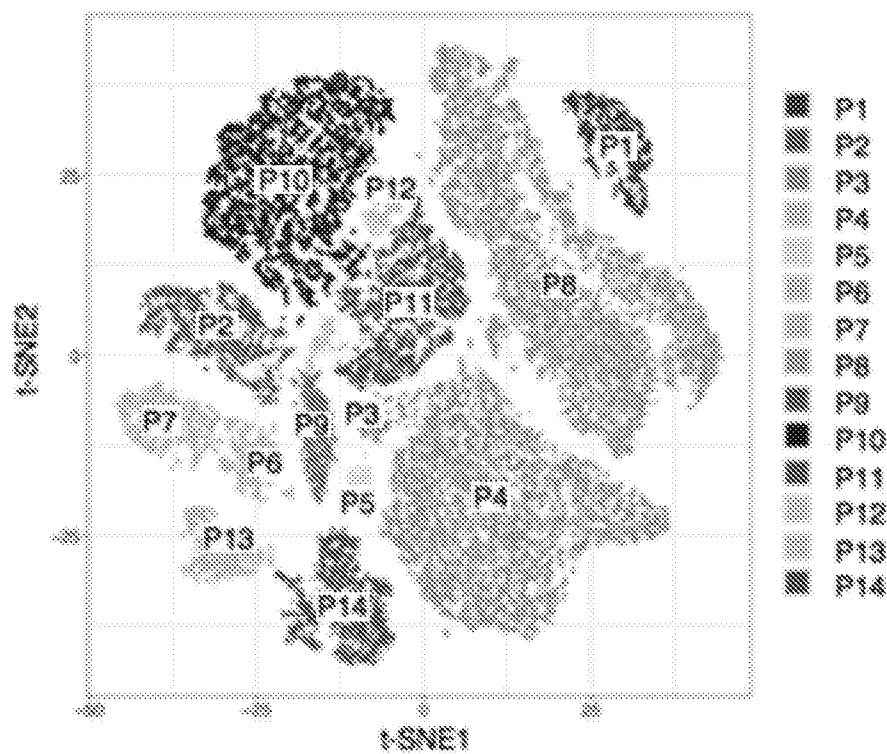


FIG. 10A

Cluster	Type
P1	Decidual cells
P2	Vascular endothelial cells
P3	Vascular smooth muscle cells
P4	Fetal stromal cells
P5	Multiplets cluster
P6	Gonadotropin cells
P7	Hofbauer cells
P8	T cells
P9	Erythroblasts
P10	Extravillous trophoblast cells
P11	Cytotrophoblast cells
P12	Syncytiotrophoblast cells
P13	B cells
P14	Monocytes

FIG. 10B

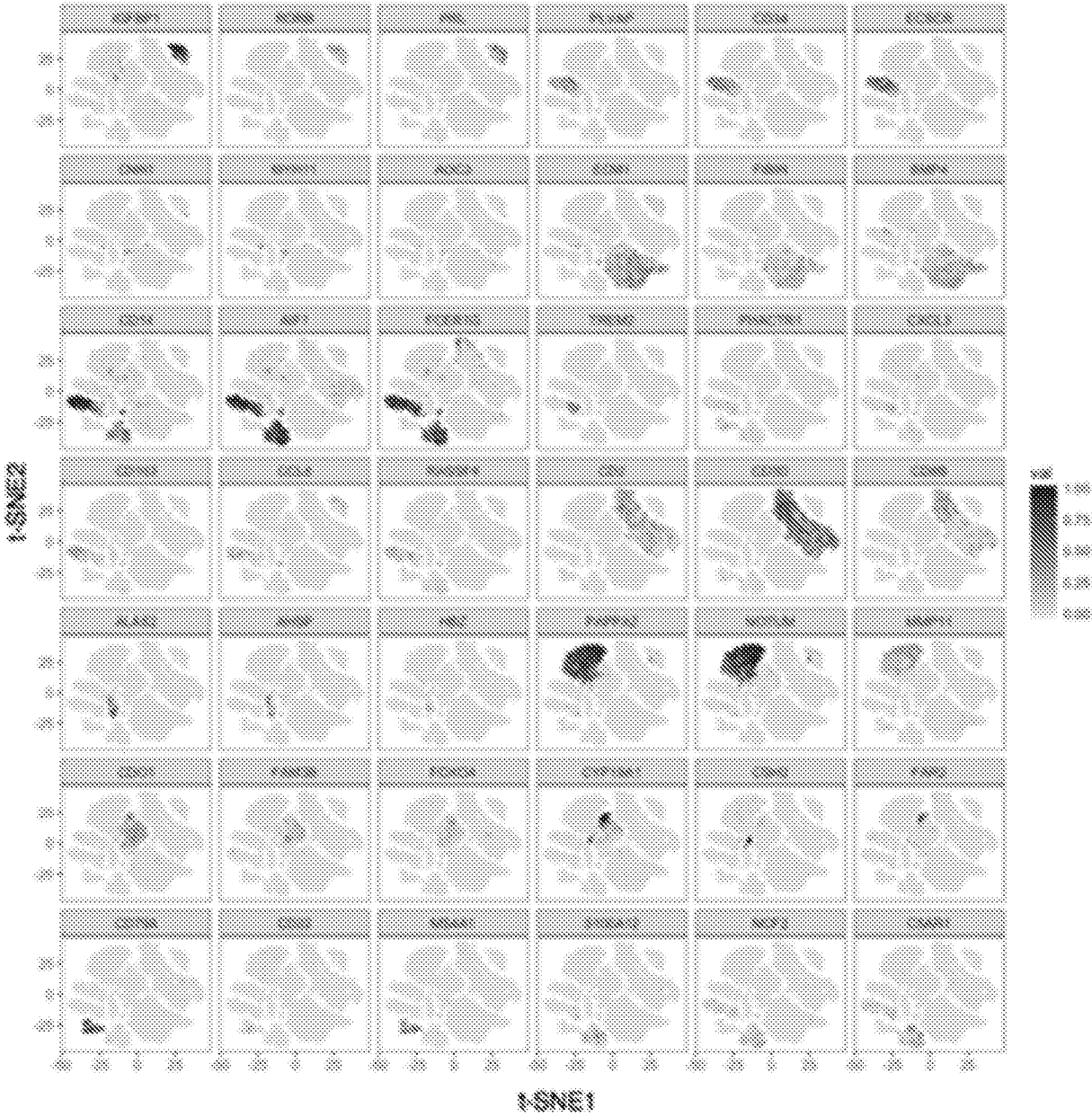


FIG. 10C

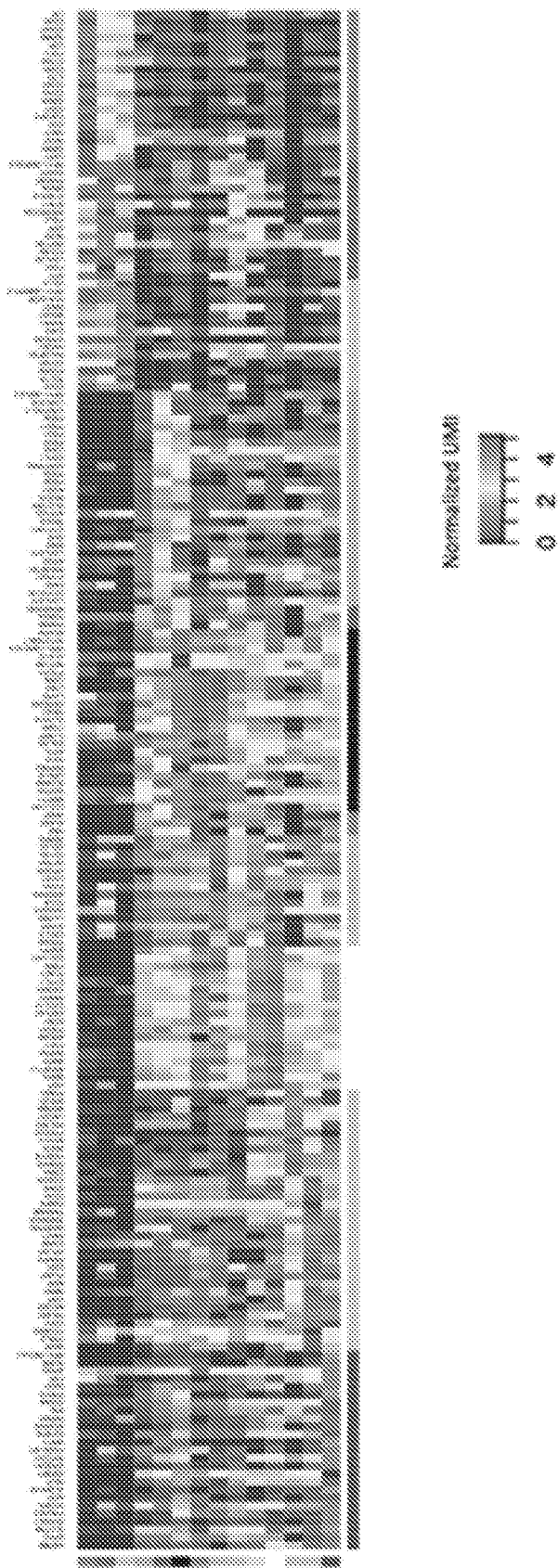


FIG. 10D

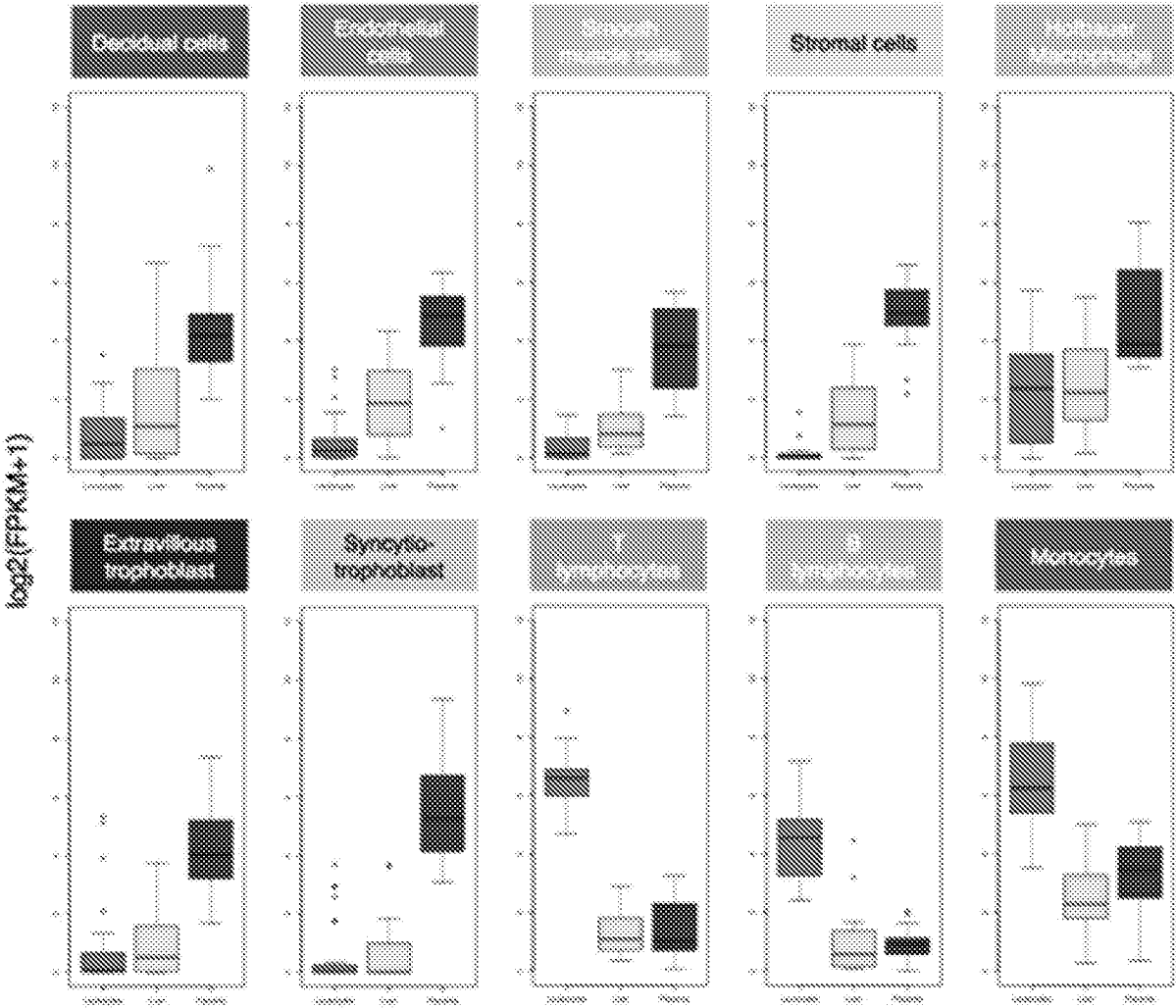


FIG. 10E

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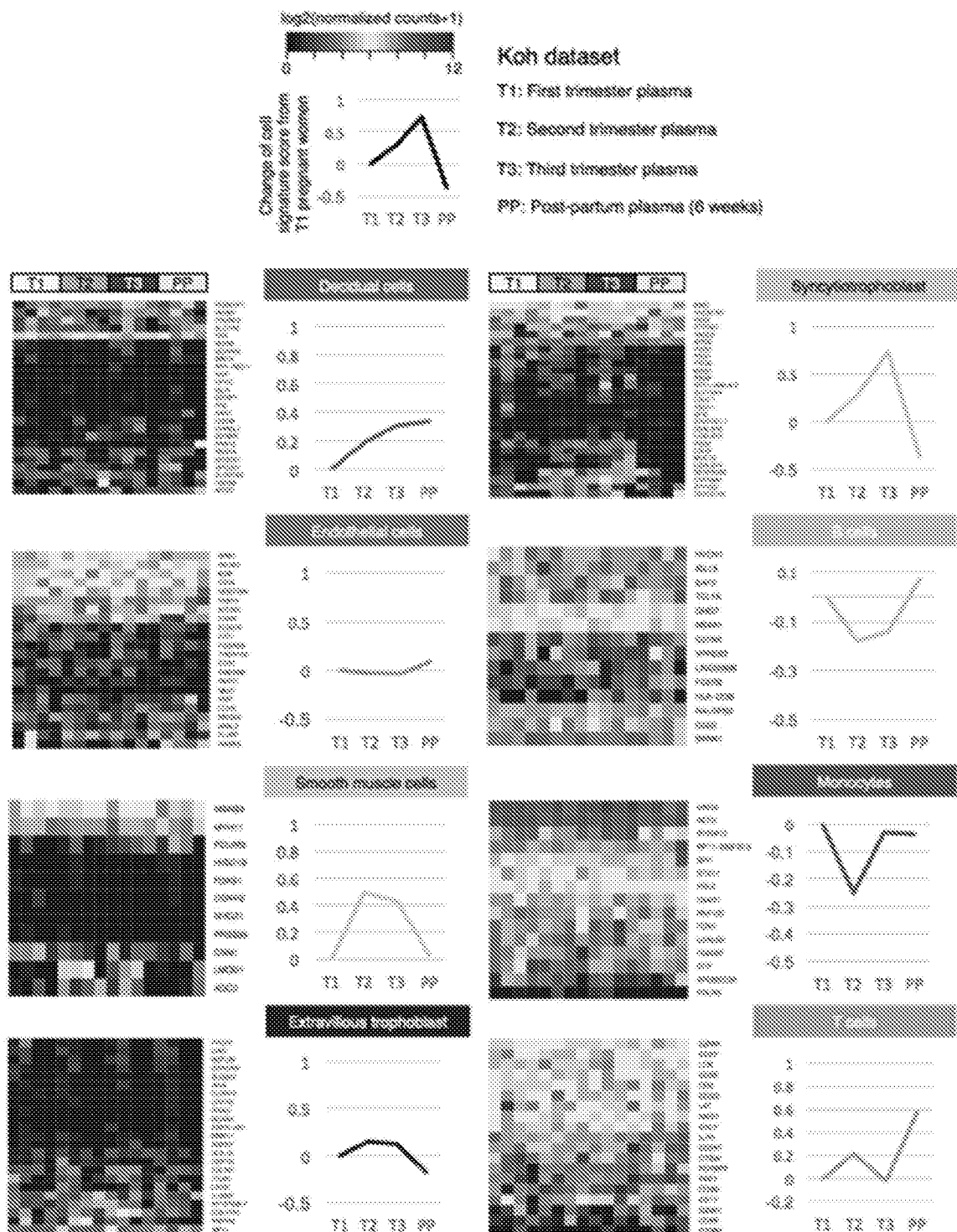


FIG. 10F

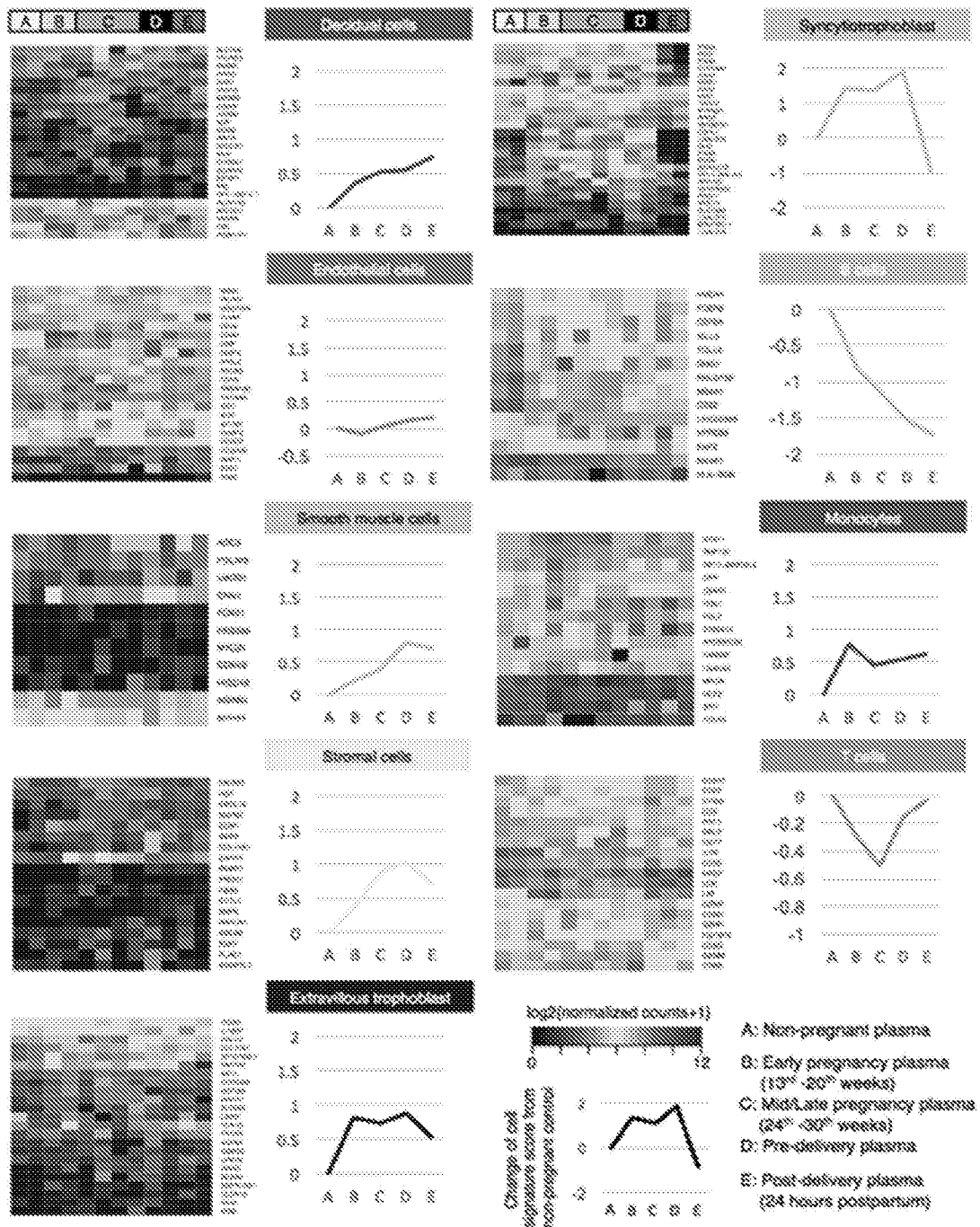


FIG. 11

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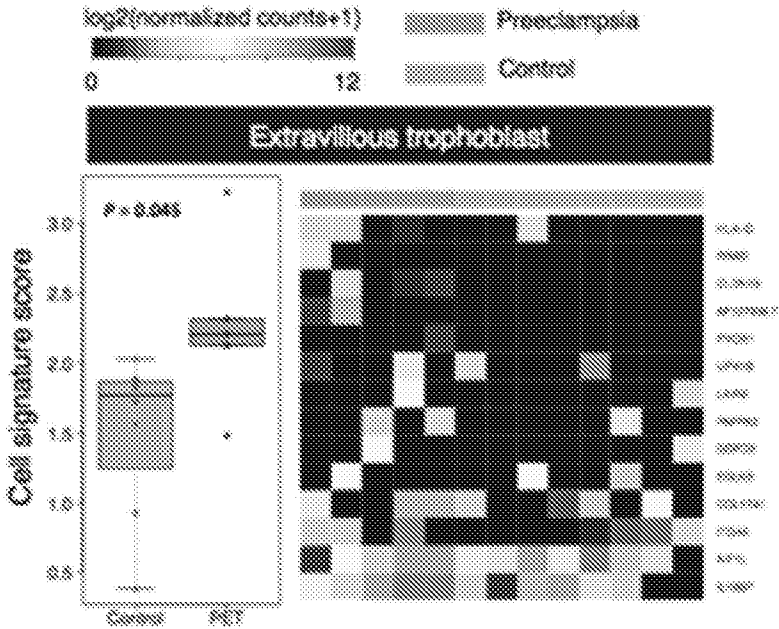


FIG. 12A

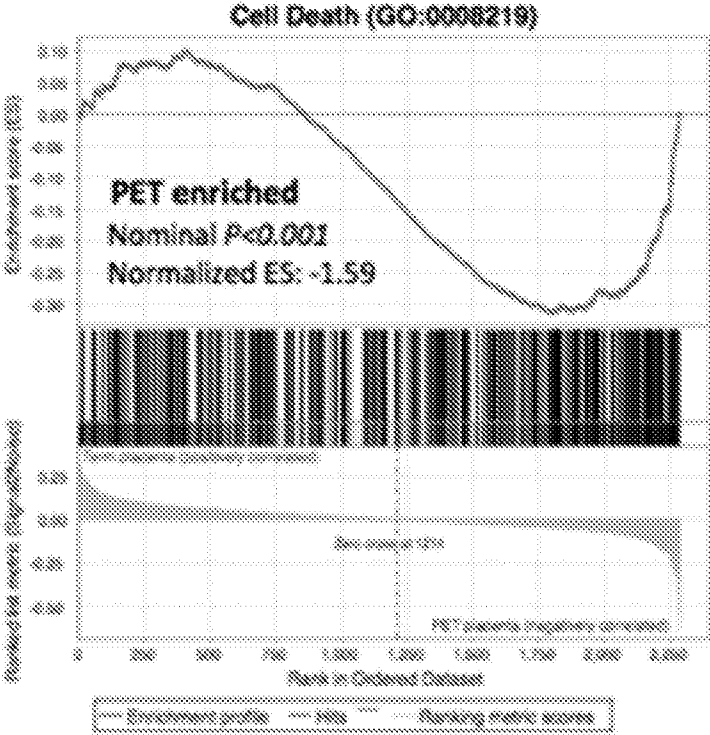


FIG. 12B

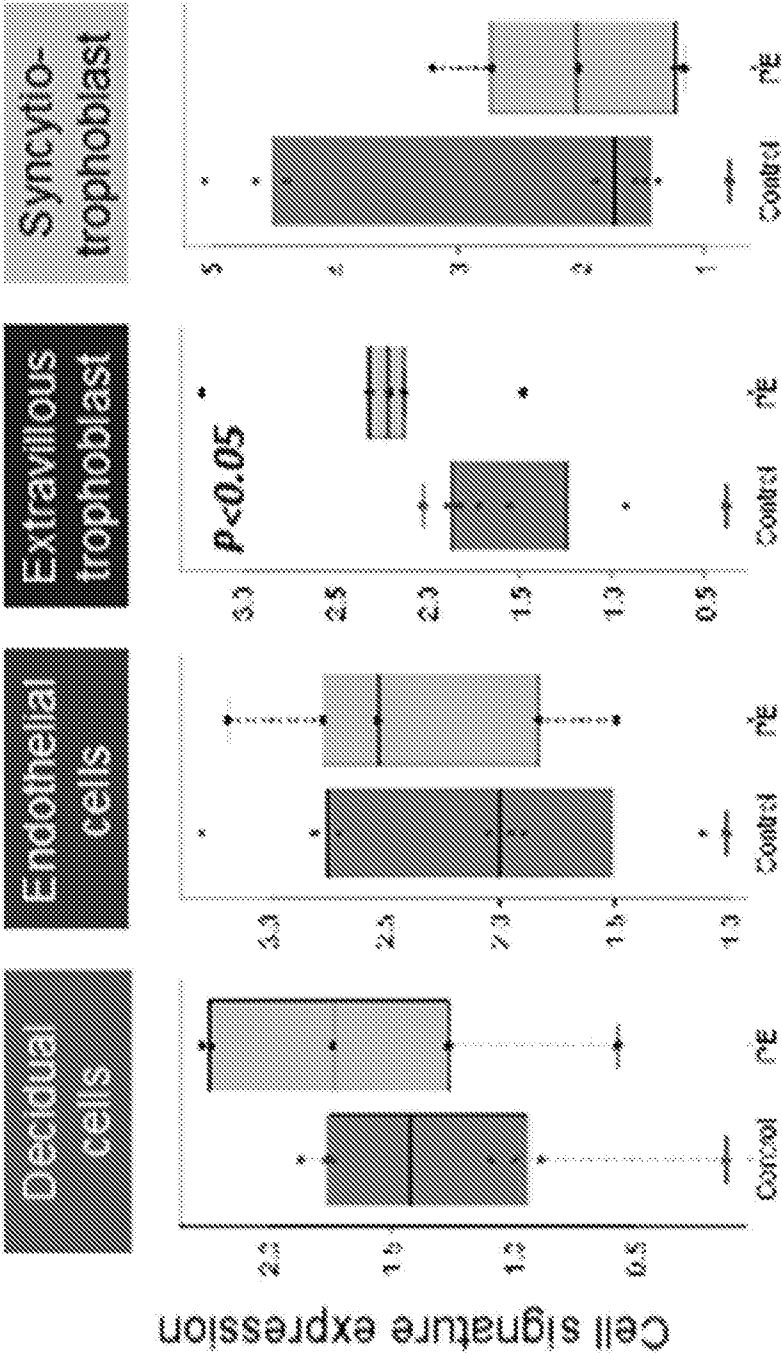


FIG. 13

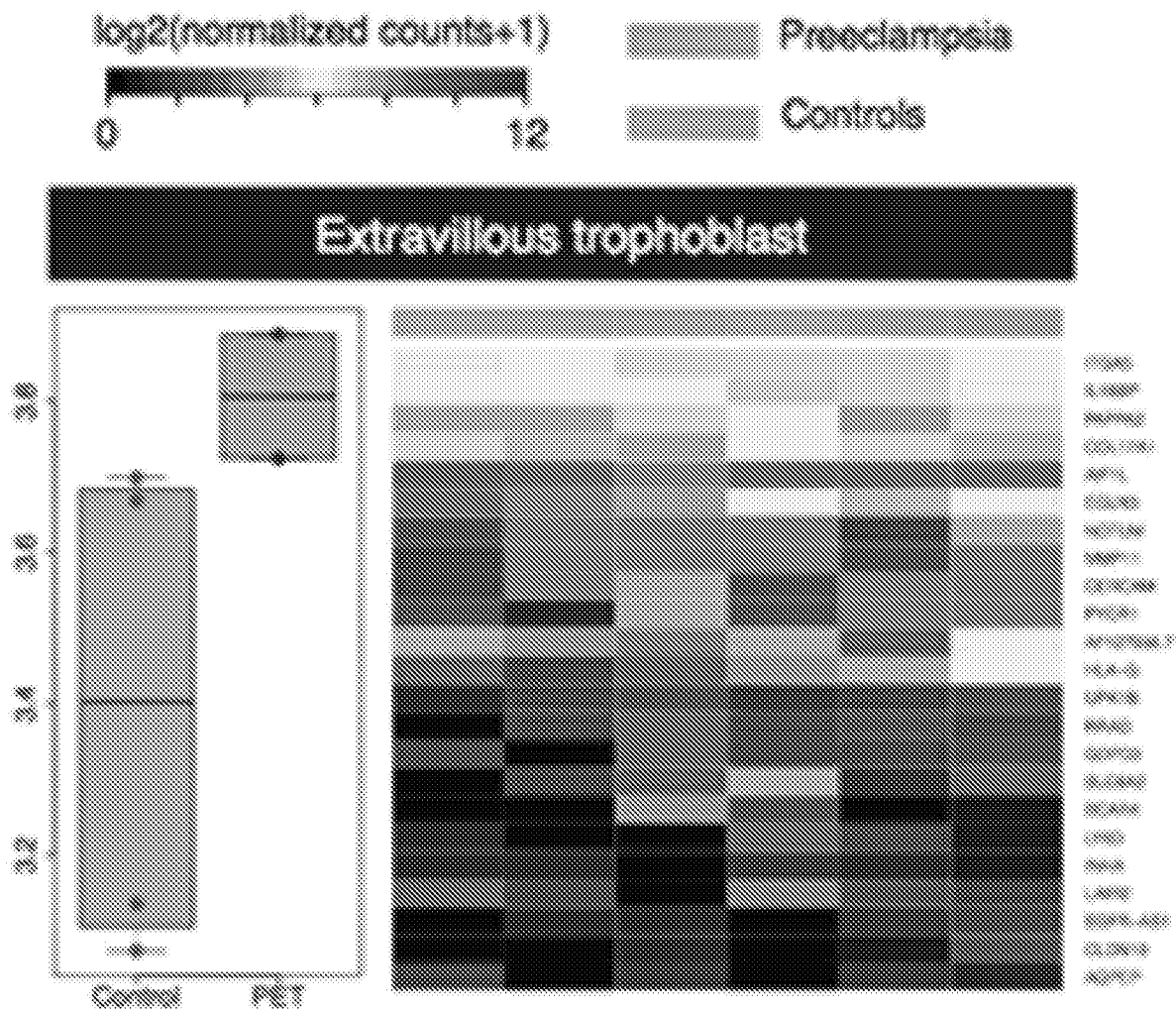


FIG. 14A

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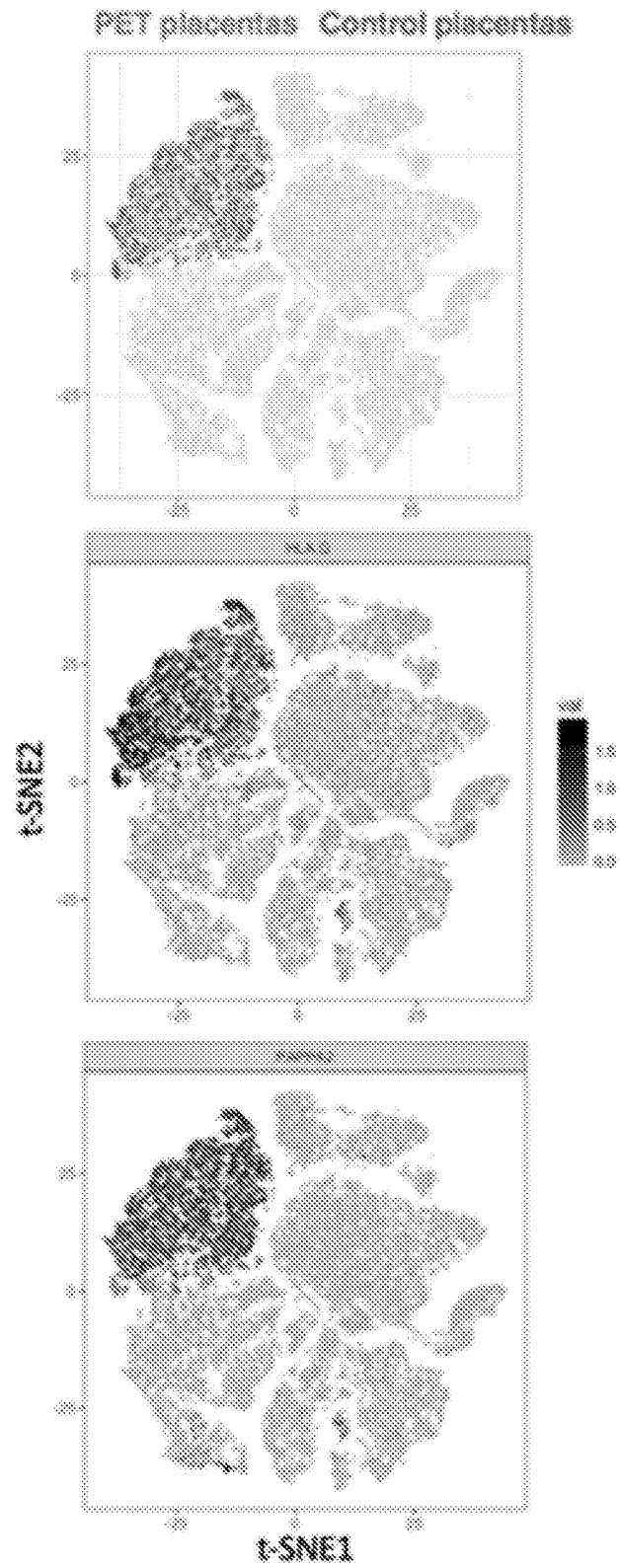


FIG. 14B

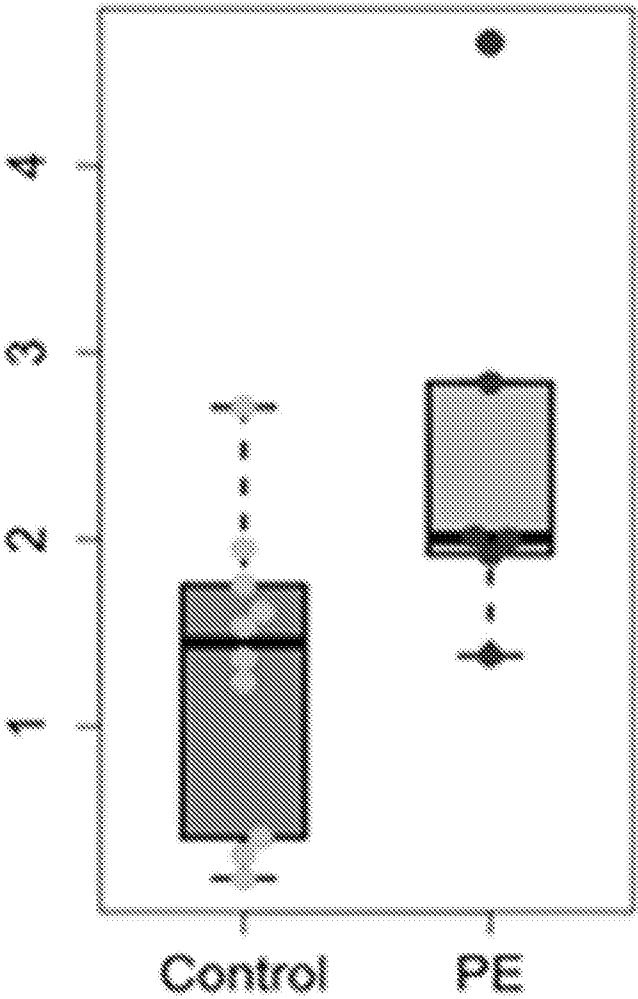


FIG. 15

Decidual cell:	HSPB6, EPYC, SLC7A8, CHRDL1, PRUNE2, VEGFA, NDP, ALDH1A2, ISLR, IGFBP1, SPOCK1, APCDD1, PDZK1IP1, WNT4, IGFBP6, SCARA5, PARM1, PRL, CD248, PRR15, GAS1, F2R, APOO, RORB, RP1-78O14.1
Endothelial cell:	NNAT, HYAL2, FCGR2B, EDN1, PALMD, MEOX2, VWF, NRN1, KDR, PLVAP, IDO1, RAMP2, APLNR, ESAM, PART1, NOSTRIN, TMEM100, TMEM88, FABP4, CD34, CDH5, ECSCR
Vascular smooth muscle cell:	CNN1, COX4I2, HIGD1B, AOC3, MYH11, PRSS35, PDLIM3, LMOD1, MSRB3, MYOZ1, FOXS1
Stromal cell:	HGF, BMP5, ANGPTL1, BMP4, MATN2, FGF7, ABCA8, PROK1, ECM1, HAPLN1, CXCL14, PAMR1, CADM3, CYTL1, PLAC1, FIBIN, COL14A1, ENPPI
Dendritic cell:	TREM2, CXCL3
Hofbauer cell:	STAB1, LILRB5, RASSF4, CCL8, ADORA3, F13A1, LYVE1, HPGDS, GPR34, CD163, CCL13, ADAP2
T cell:	CST7, GZMH, NKG7, GNLY, CD2, FGFBP2, CD27, GZMA, CD3G, CD3D, IL7R, CD8B, CTSW, PRF1, LCK, GZMM, CD247, CD3E, LAT;
Erythrocyte:	HBZ, ALAS2, AHSP
Extravillous trophoblast:	COL17A1, MMP11, GDDP3, SLC6A2, UPK1B, PAPPA2, INHA, AIF1L, EGLN3, IL18BP, ITGA5, CLDN19, R RAD, CERCAM, LAIR2, LY6D, AQPEP, PYCRI, NOTUM, HLA-G, EGFR-AS1, AF127936.7, BCAR4
Cytotrophoblast:	FAM3B, FOXO4, MIR205HG
Syncytiotrophoblast:	LGALS14, DEPDC1B, FAR2, PTPN21, RHOBTB1, ARG2, LGALS13, KMO, GH2, CYP19A1, TACC2, ATP10D, SLC13A4, MUC15, KISS1, PSG6, PSG9, SERPINB2, CSHL1, CSH2, PSG3, PSG1, PSG11, PSG4, ERVFRD -1, LGALS16, RP11-266L9.2
B cell:	CD22, TCL1A, FCER2, CD79A, RALGPS2, HVCN1, VPREB3, EAF2, BANK1, MS4A1, GNG7, HLA-DOB, LINC00926, IGLL5
Monocyte:	SPI1, FCN1, LGALS2, FOLR3, RNFI30, NCF2, CFP, FGL2, APOBEC3A, STX11, S100A12, MNDA, FAM26F, C5AR1, LINC01272

FIG. 16

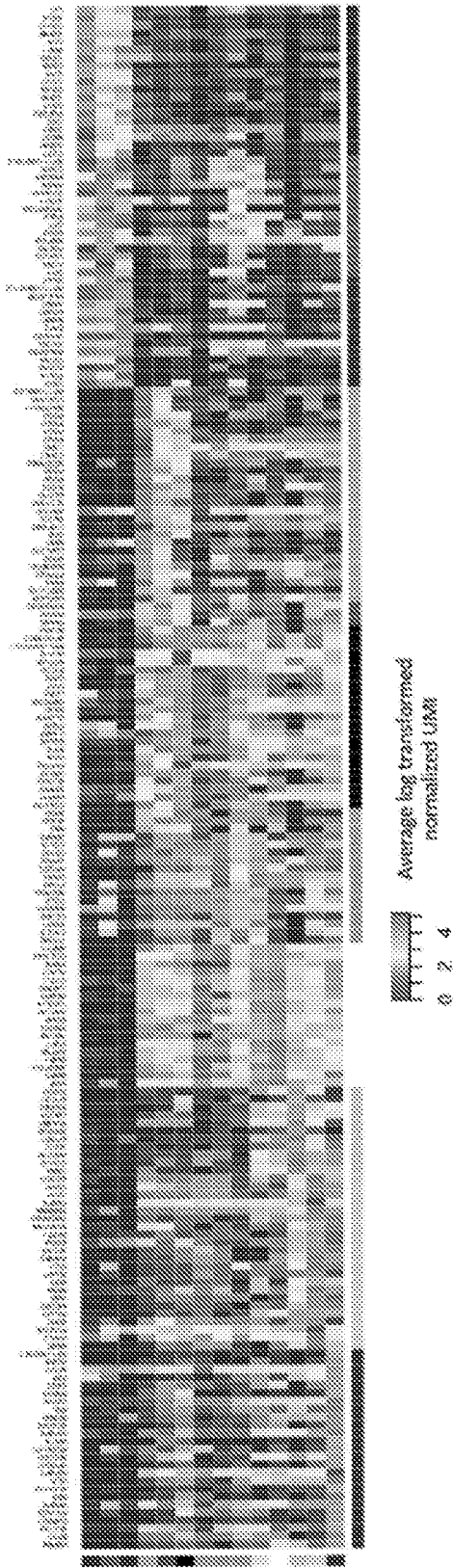


FIG. 17

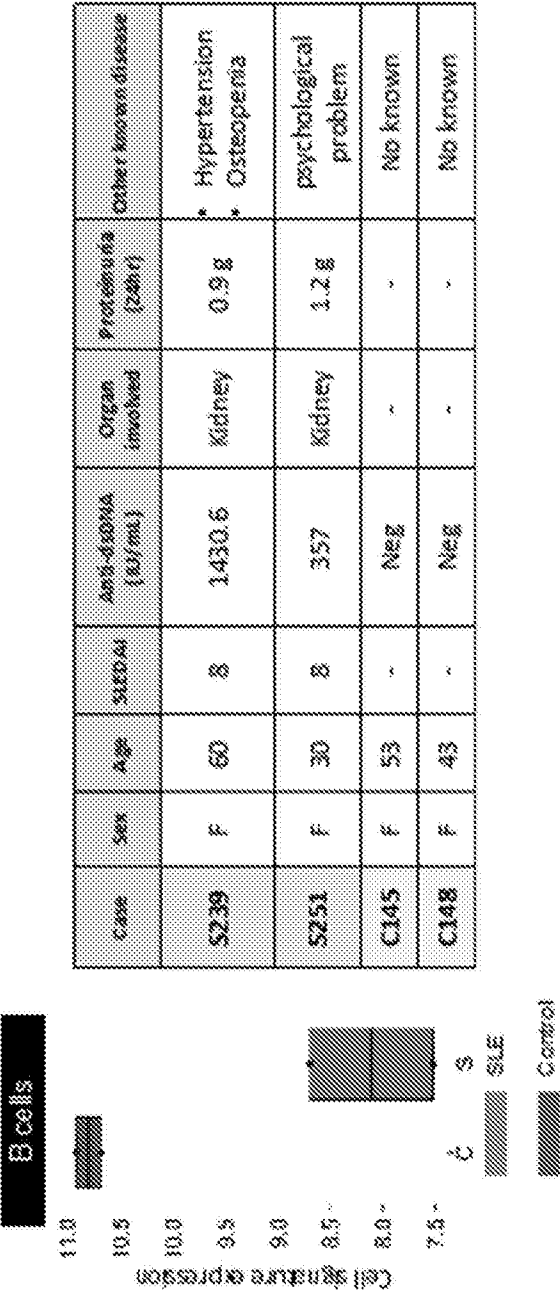


FIG. 18

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Sample	Clinical conditions
2140T	Well-differentiated HCC
2140N	Adjacent normal liver of 2140T
2138T	Well-differentiated HCC
2138N	Adjacent normal liver of 2138T
2096T	Moderately-differentiated HCC
2096N	Adjacent normal liver of 2096T
2058T	Moderately-differentiated HCC
2058N	Adjacent normal liver of 2058T

FIG. 19

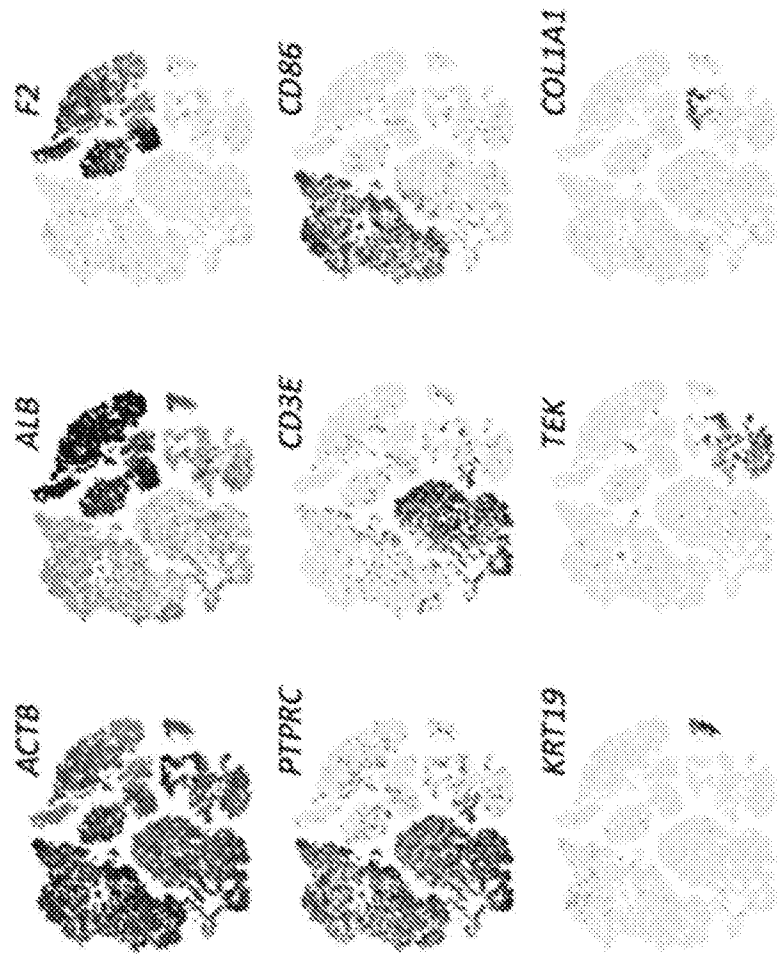


FIG. 20

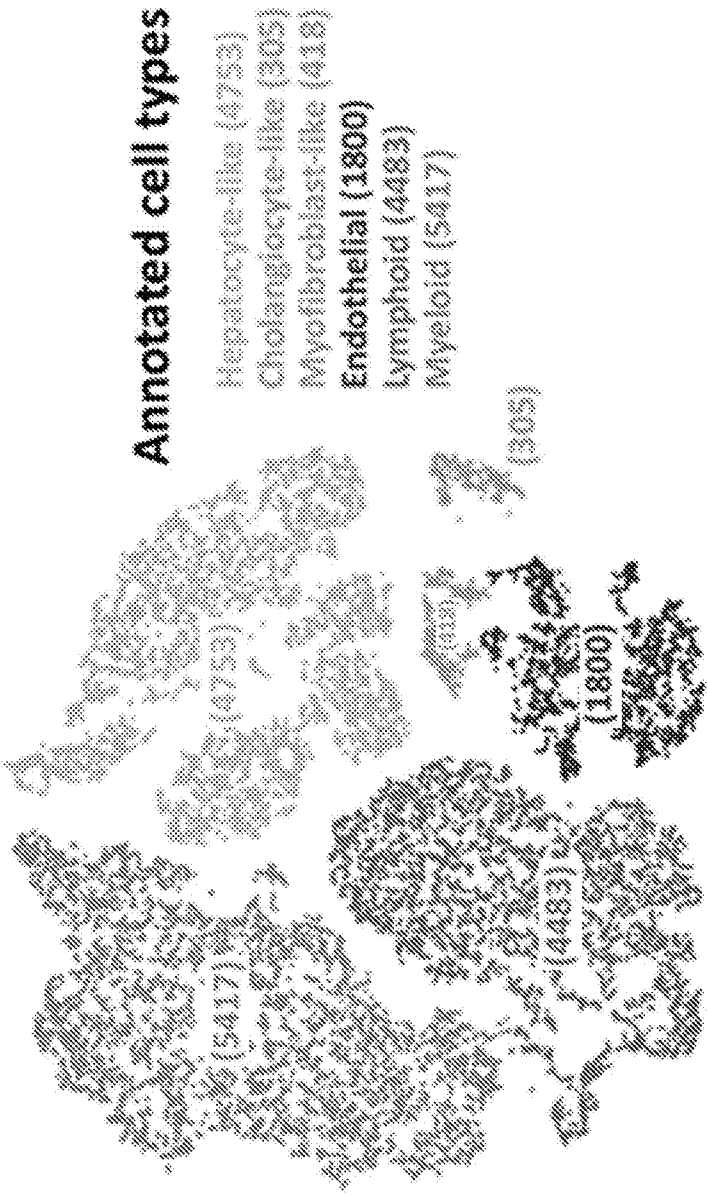


FIG. 21

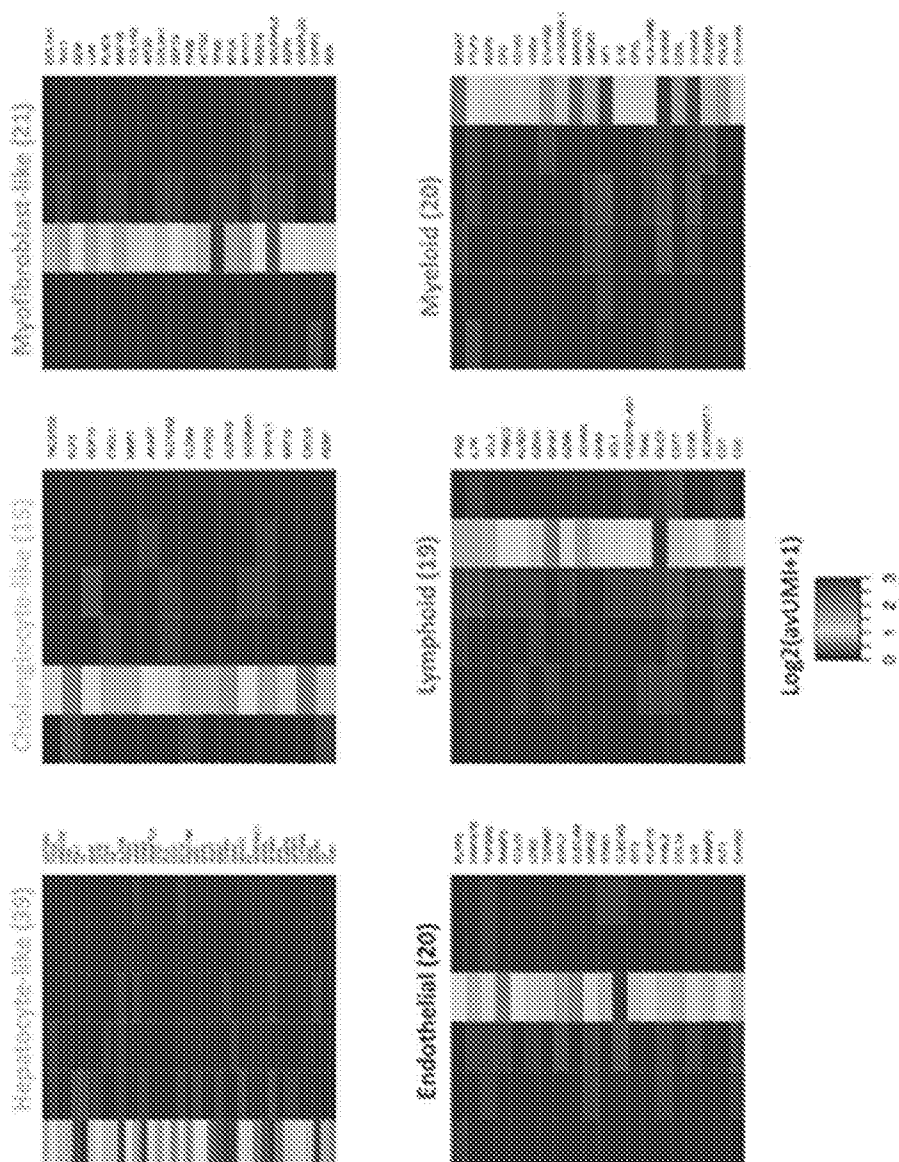


FIG. 22

Hepatocyte-like cells:	SPINK1, CFHR1, TF, SAA2, GSTA1, ORM2, FGL1, KNG1, ALDOB, AHSG, AGXT, HPX, SERPINC1, PCK1, CE S1, HSD17B6, HAMP, CPS1, CP, UGT2B4, C8G, TAT, HRG, ITIH3, HMGC S2, C4BPB, MTIH, IGFBP1, F2, B AAT, ADH1C, CYP3A4, ANGPTL3, PLG, CES2, PON1, TDO2, HPD, SPP2
Cholangiocyte-like cells:	CXCL6, ELF3, CLDN10, SH3YL1, FXVD2, MMP7, CXCL1, CLDN4, PERP, KRT19, SLC12A2, TACSTD2, AKA P7, SCGB3A1, GDF15
Myofibroblast-like cells:	TPM2, NDUFA4L2, MYH11, MYLK, THY1, MAP1B, ACTG2, LUM, COL1A1, COL3A1, PLAC9, COL1A2, F RZB, ASPN, REN, APOD, CSRP2, CRISPLD2, RGS16, GEM, SEPT4
Endothelial cells:	CLEC4G, RAMP3, CLEC4M, EGFL7, CAVIN2, CCL14, FAM167B, STAB1, HYAL2, RAMP2, OIT3, TSPAN7, LDB2, PCAT19, HSPG2, TGFB2, IL33, FLT1, PLPP3, CCL23
Lymphoid cells:	IGLC3, IGHA1, JCHAIN, IFNG, IL7R, CD7, XCL2, CST7, GZMA, IGHM, CD3D, TRAC, XCL1, GZMK, CD2, AC 245427.1, KLRD1, PCED1B-AS1, TRBC2
Myeloid cells:	S100A9, AIF1, S100A8, MARCO, MS4A7, CD5L, C1orf162, HMOX1, FOLR2, FCGR3A, AC020656.1, CF D, VSIG4, CD163, IL1B, CPVL, HLA-DMB, IGSF6, C15orf48, FTLP3

FIG. 23

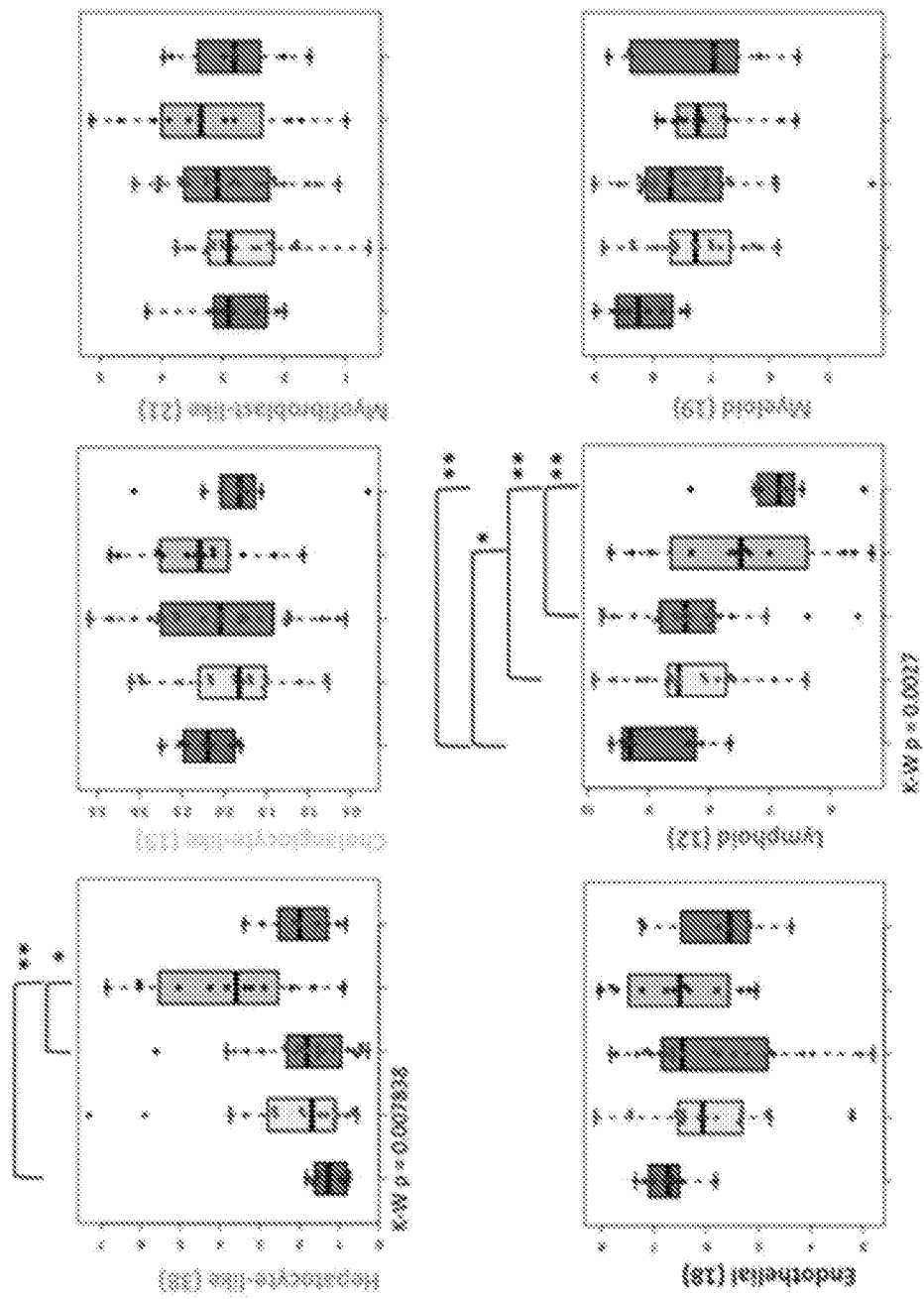
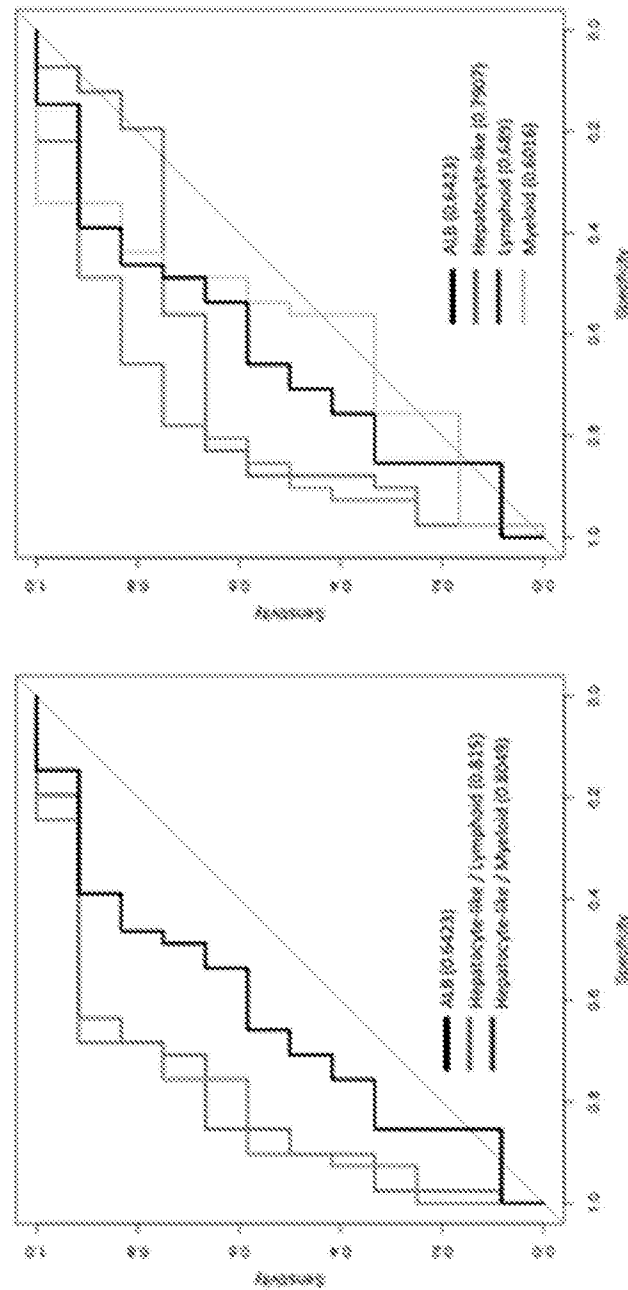


FIG. 24



ALB vs Hepatocyte-like p=0.02531

Hepatocyte-like/Lymphoid vs Hepatocyte-like/Myeloid
p=0.5303
ALB vs Hepatocyte-like/Lymphoid p=0.00825
ALB vs Hepatocyte-like /Myeloid p=0.008594

FIG. 25

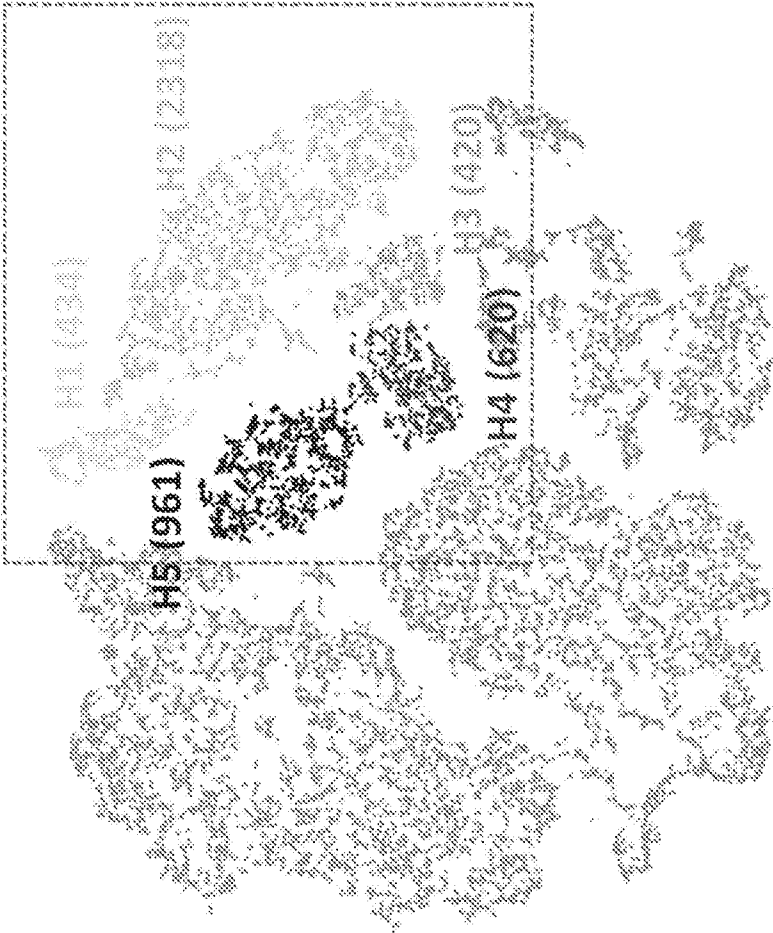


FIG. 26

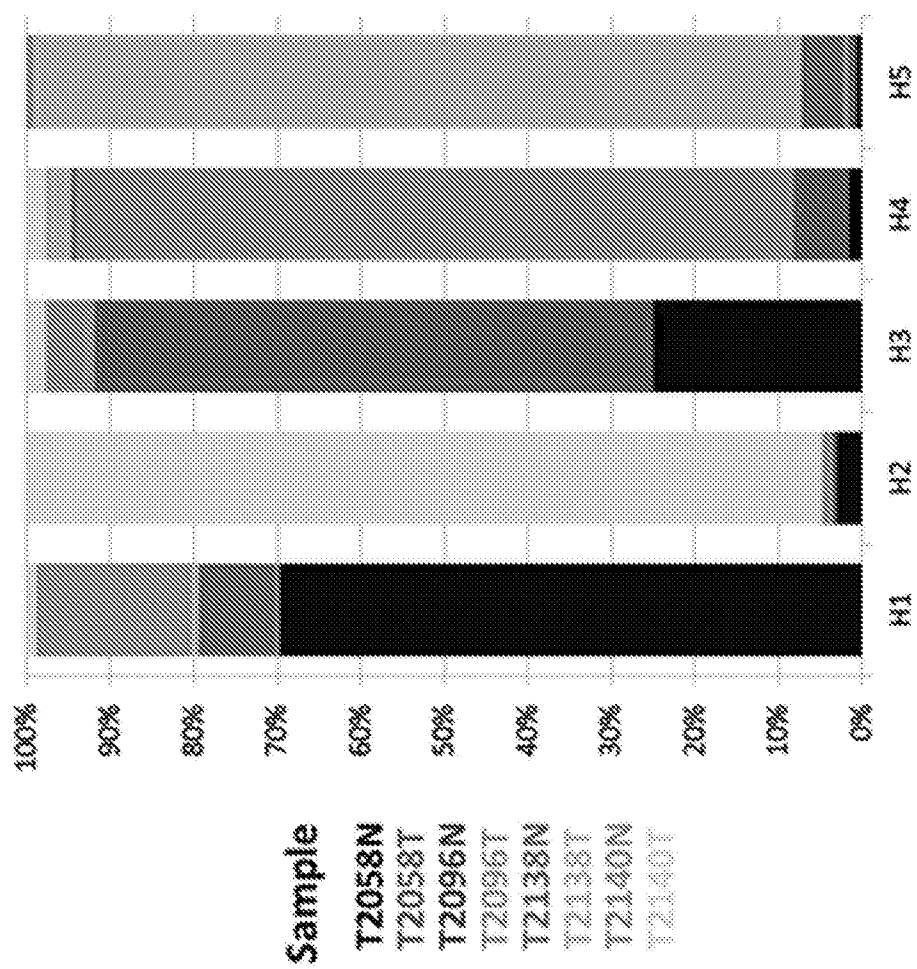


FIG. 27

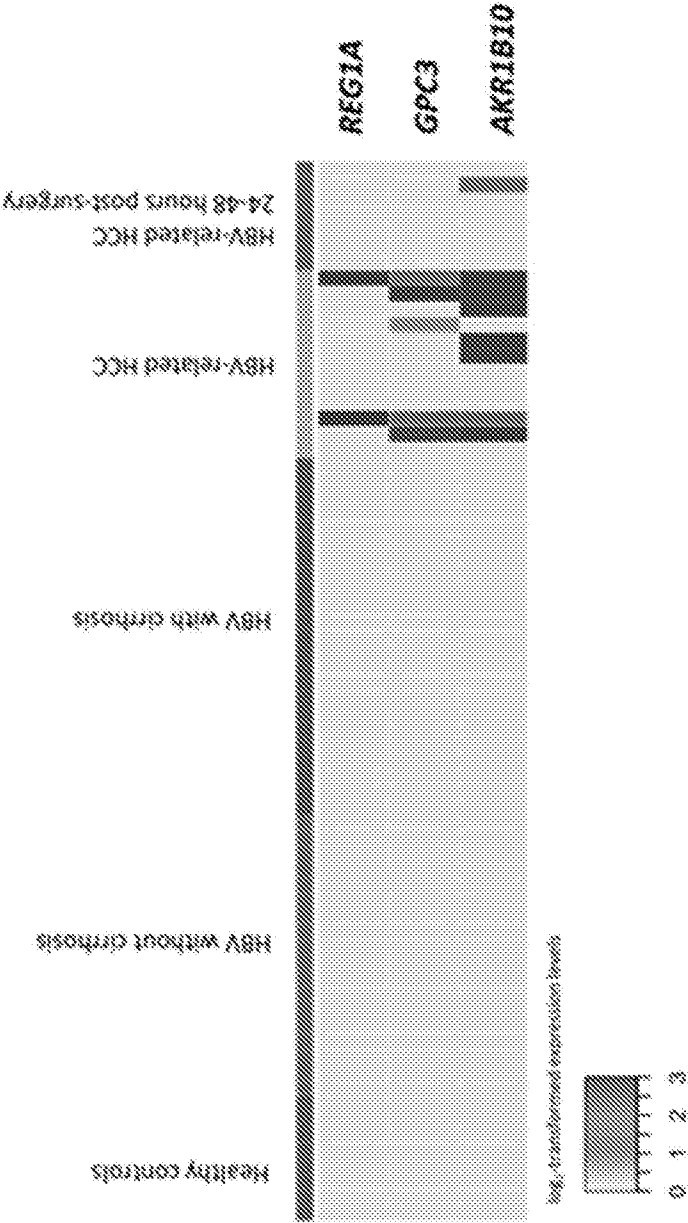


FIG. 28

H1:	CYP2C8, AOX1, CFI
H2:	GPC3
H3:	REG1A, REG3A, SNHG25, C8orf59, MOCS2
H4:	AKR1B10, EBP, PHB, PRDX4, TALDO1
H5:	MRPL41, KDELR2

FIG. 29

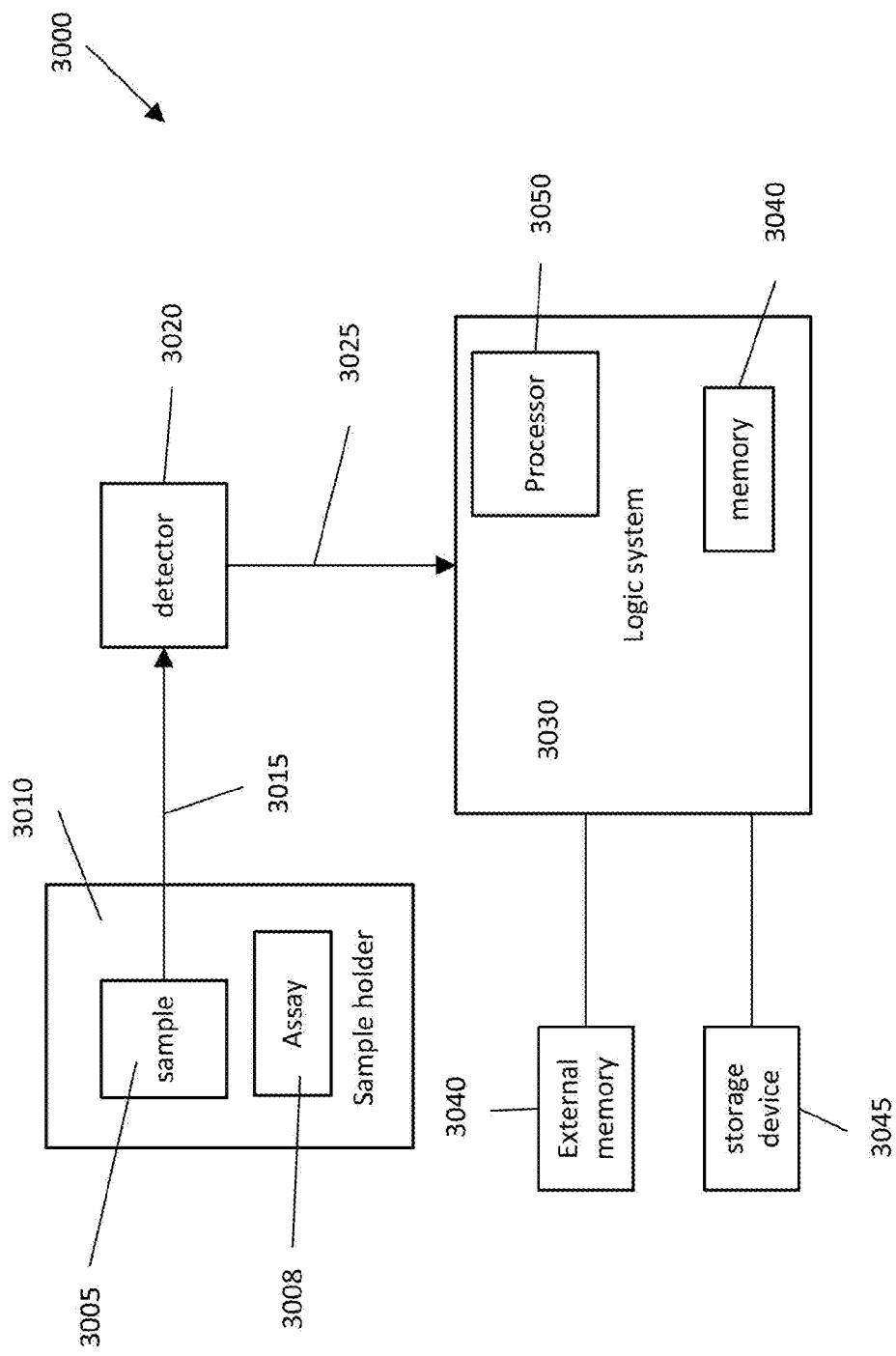


FIG. 30

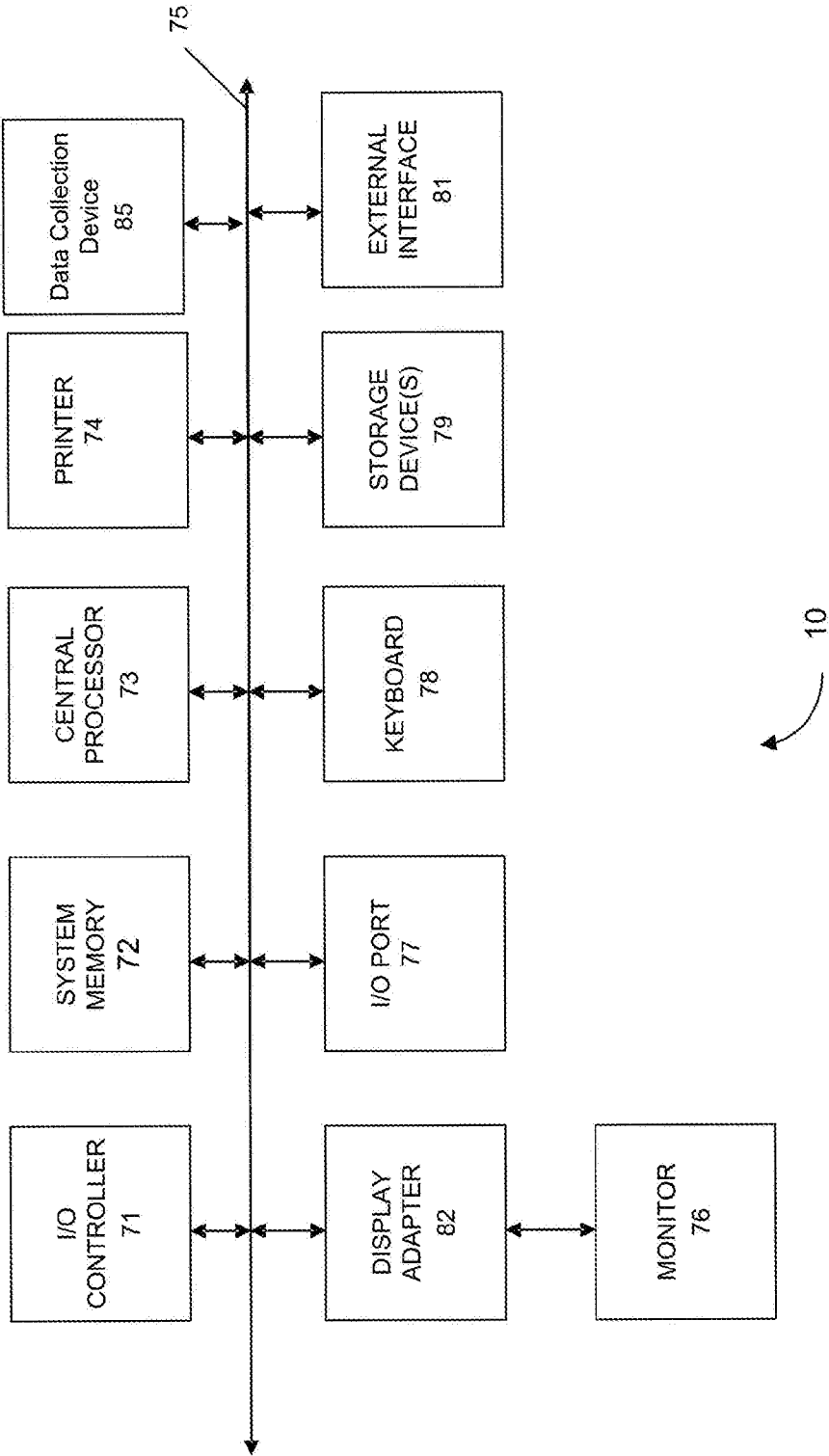


FIG. 31