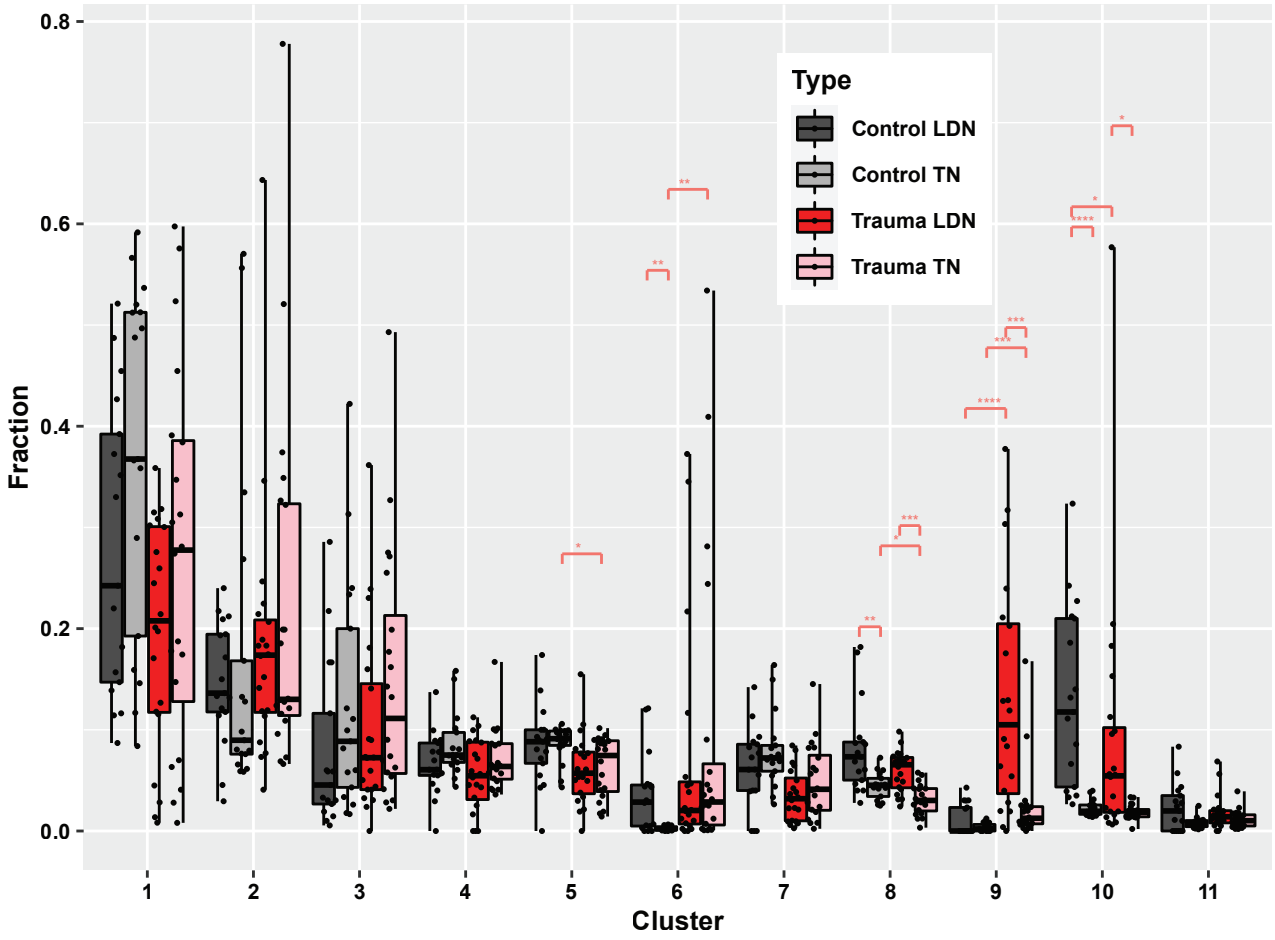


<u>Figure S1.</u> Neutrophil distribution by cluster on a per sample basis varies between traumas and controls as well as by cell density. The fraction of cells in each cluster for each sample, grouped by sample type, are shown in a box-and-whiskers plot. Boxes span from the 25th to 75th percentile of the data, with a horizontal line at the median. Whiskers span the full extent of the data. Red stars indicate significant differences between control and trauma TNs, between control and trauma LDNs, between control TNs and LDNs or between trauma TNs and LDNs, as assessed by post-hoc Benjamini-Hochberg corrected Wilcoxon test. Note that cluster 5 neutrophils are reduced in trauma versus control TNs, whereas cluster 8 neutrophils are increased in LDNs of both controls and trauma samples relative to their TN counterparts. Cluster 10 is increased in cells sedimenting in the PBMC layer of controls and trauma, but may reflect a component of contaminating T cells based on CD3 expression in that cluster (Figure S3, Supplemental Digital Content 2).

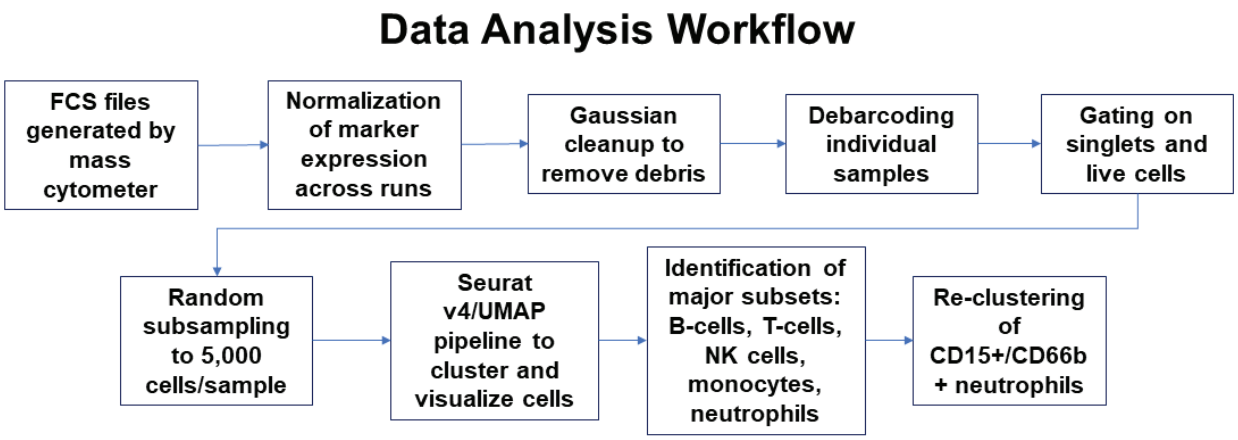
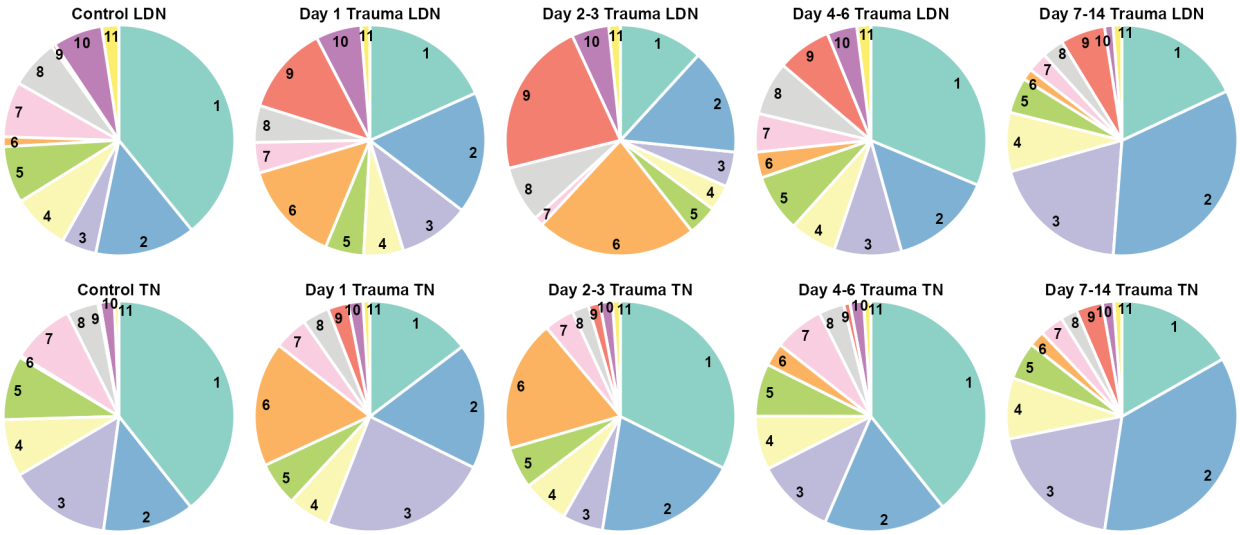


Figure S2. Summarized analytical workflow for CyTOF data. See Methods for a complete description.



<u>Figure S3.</u> Cluster distribution as a function of sample type and time after trauma. Pie charts indicate the total proportion of neutrophils of each sample type and amount of time after trauma that belong to each of the 11 clusters.

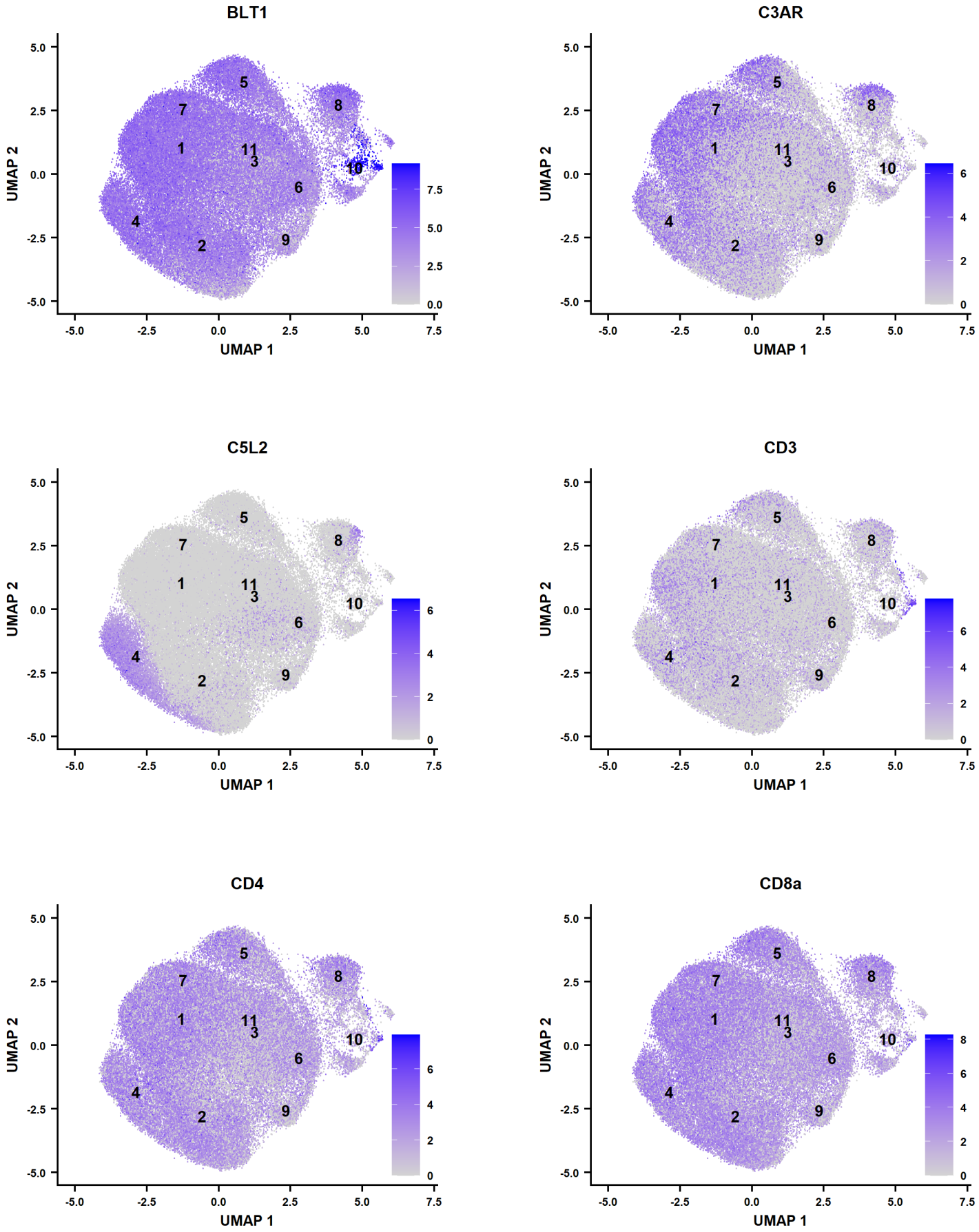


Figure S4

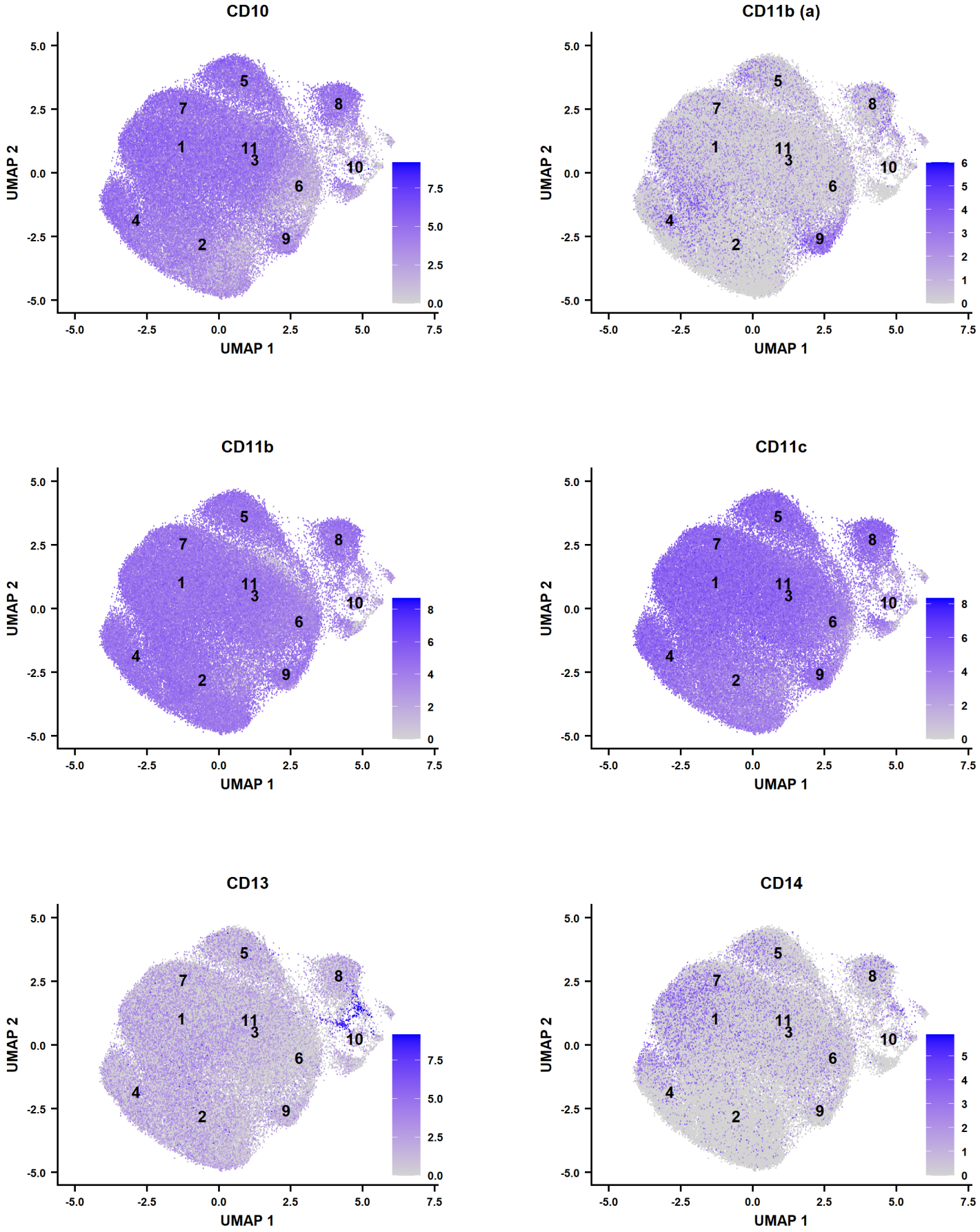

CD10
CD11b (a)
CD11b
CD11c
CD13
CD14
UMAP 1
UMAP 2
1
2
3
4
5
6
7
8
9
10
11

Figure S4

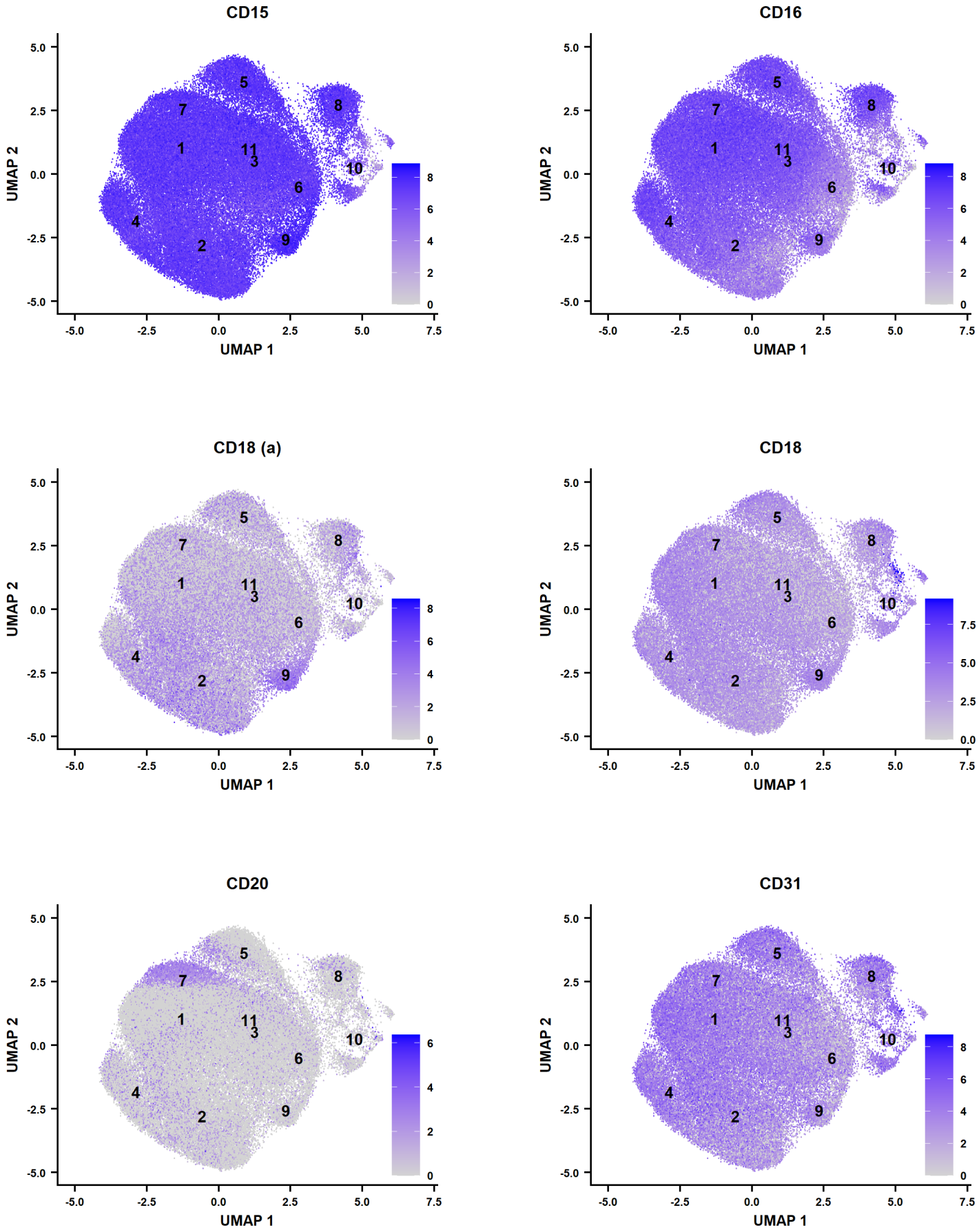


Figure S4

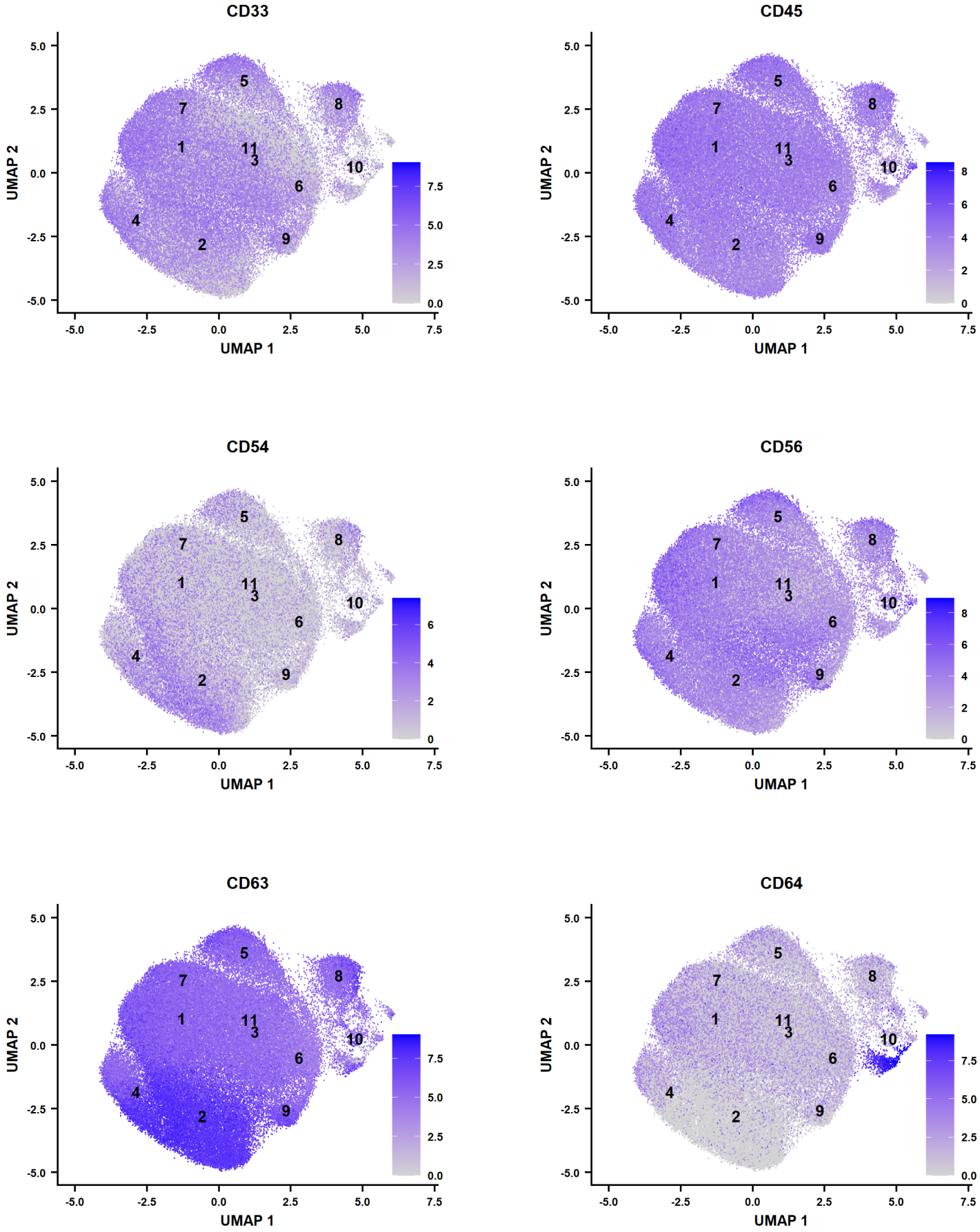


Figure S4

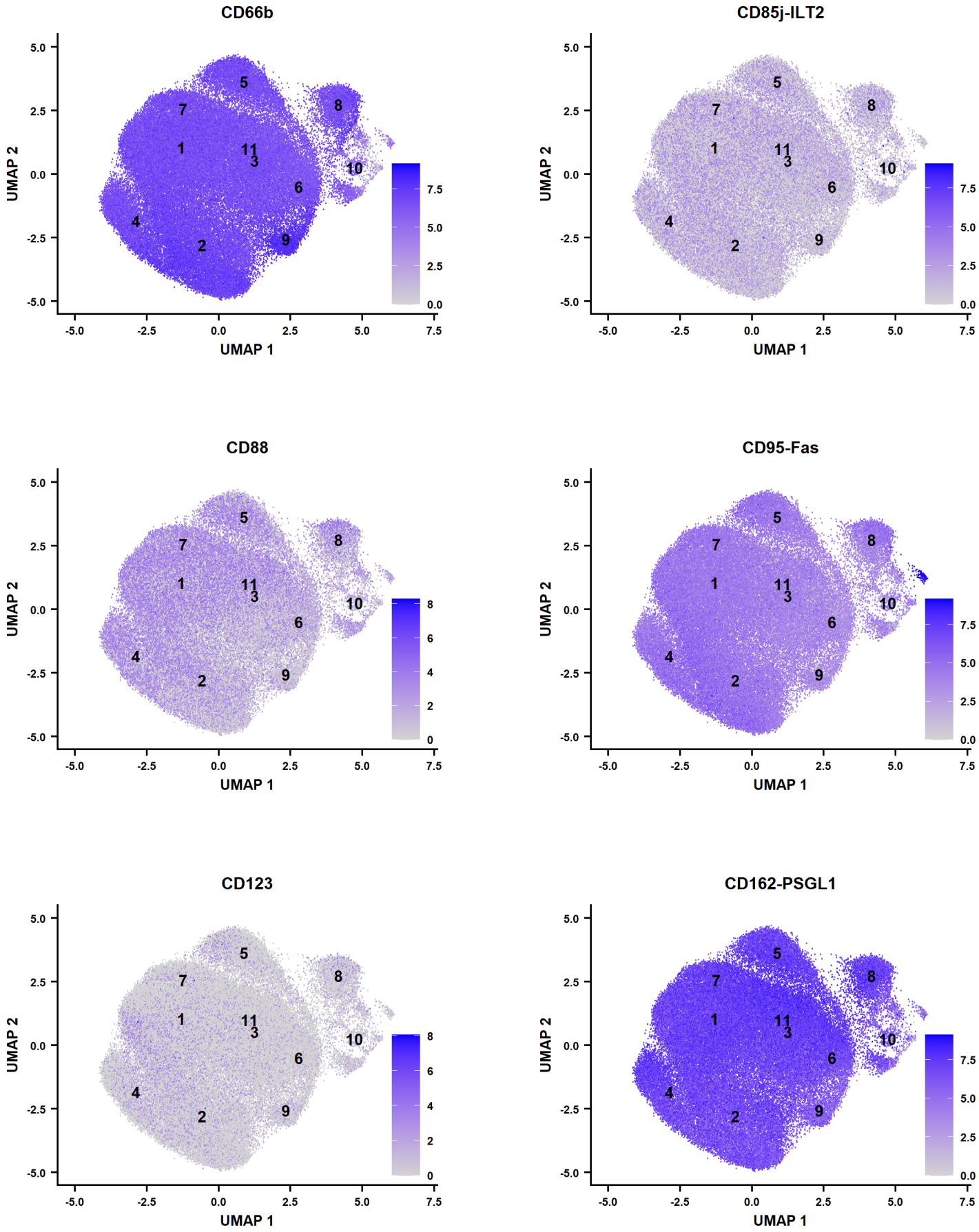

CD66b
CD85j-ILT2
CD88
CD95-Fas
CD123
CD162-PSGL1
UMAP 1
UMAP 2
1
2
3
4
5
6
7
8
9
10
11

Figure S4

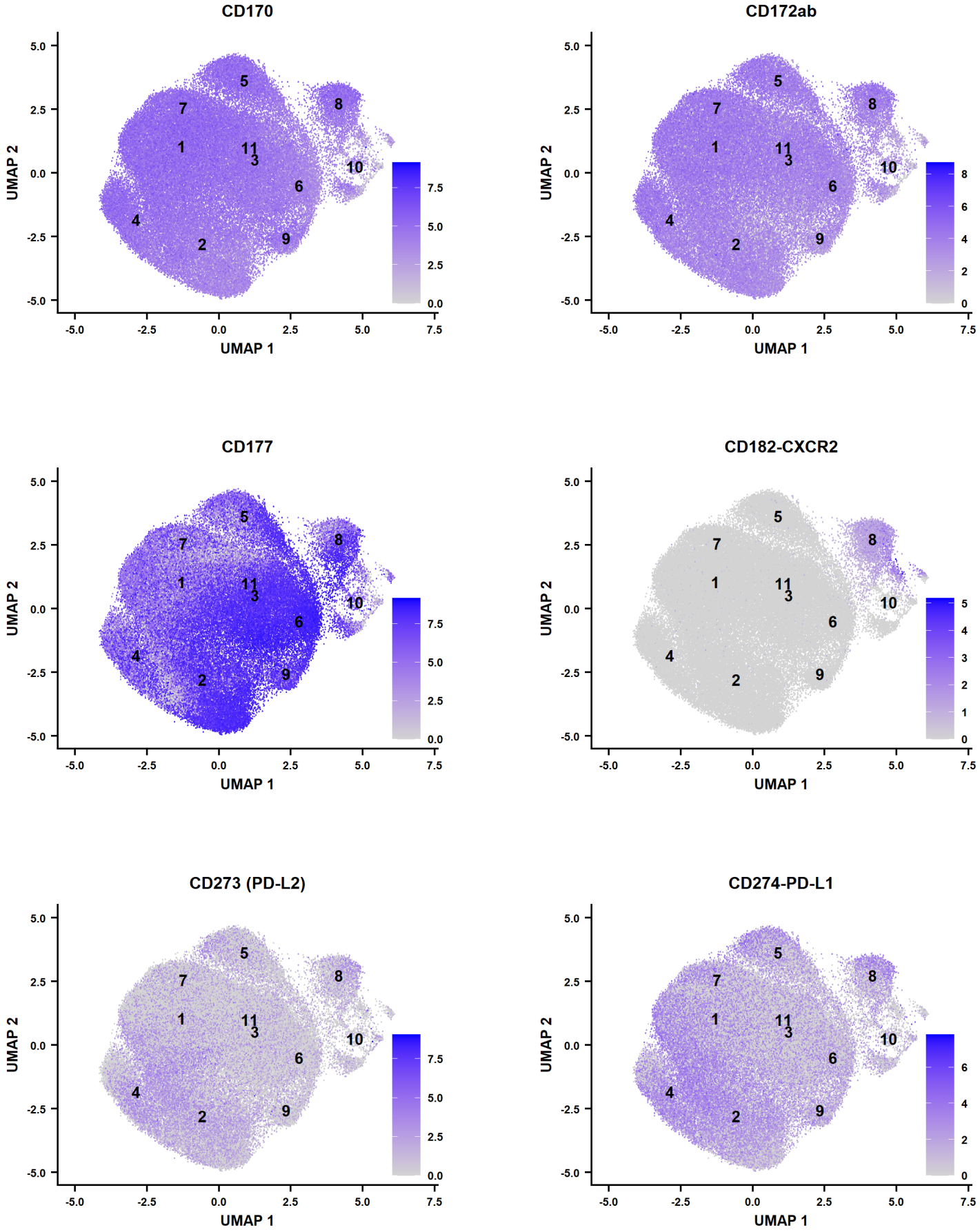

CD170
CD172ab
CD177
CD182-CXCR2
CD273 (PD-L2)
CD274-PD-L1
UMAP 1
UMAP 2
1
2
3
4
5
6
7
8
9
10
11

Figure S4

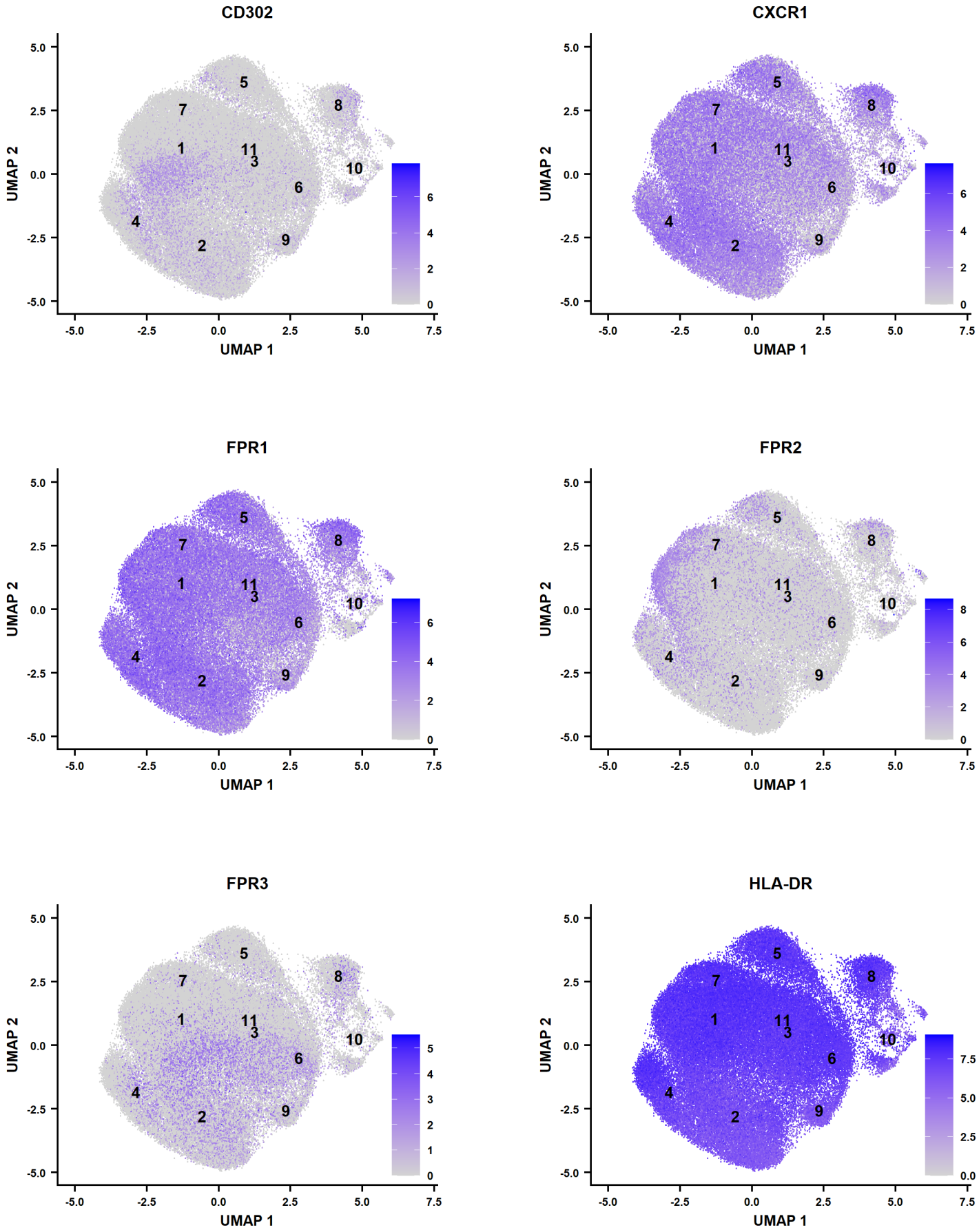
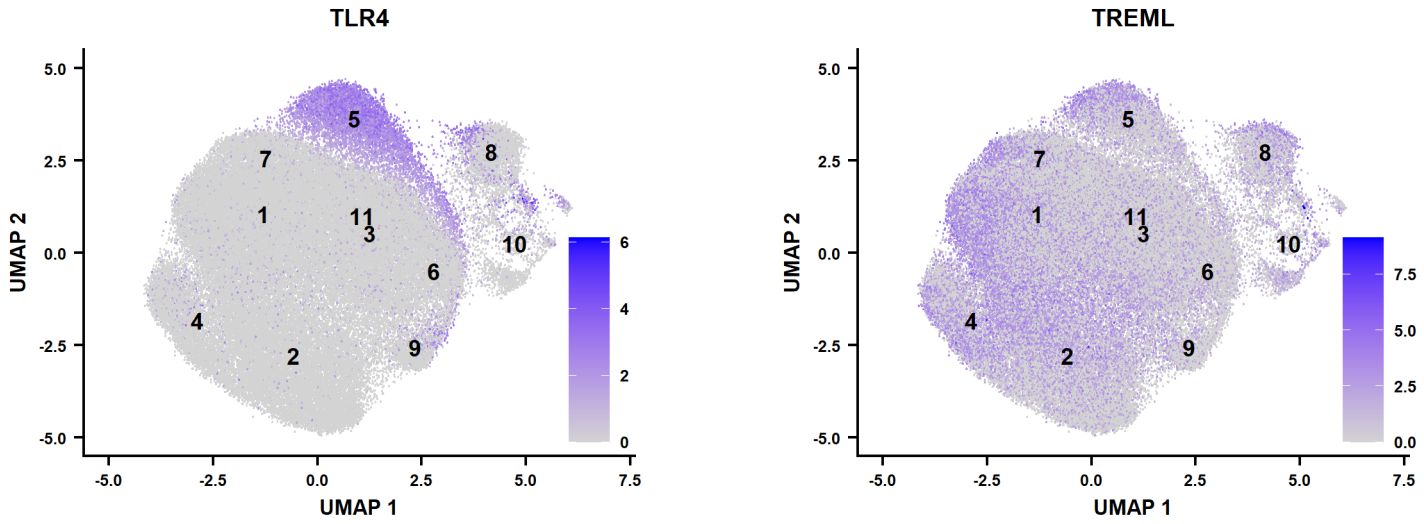


Figure S4



<u>Figure S4.</u> A compendium of each cell surface marker annotated on the neutrophil UMAP plot. Blue color intensity in individual marker plots indicates level of surface marker detection by CyTOF, log-normalized as described in methods, with the bluest color corresponding to the highest expression of that marker.