

# Figures : SPRUCE - Single-cell Pairwise Relationships Untangled by Composite ETM

Park Lab

11:40:20 AM, Jun 24, 2022

## Cell topic analysis

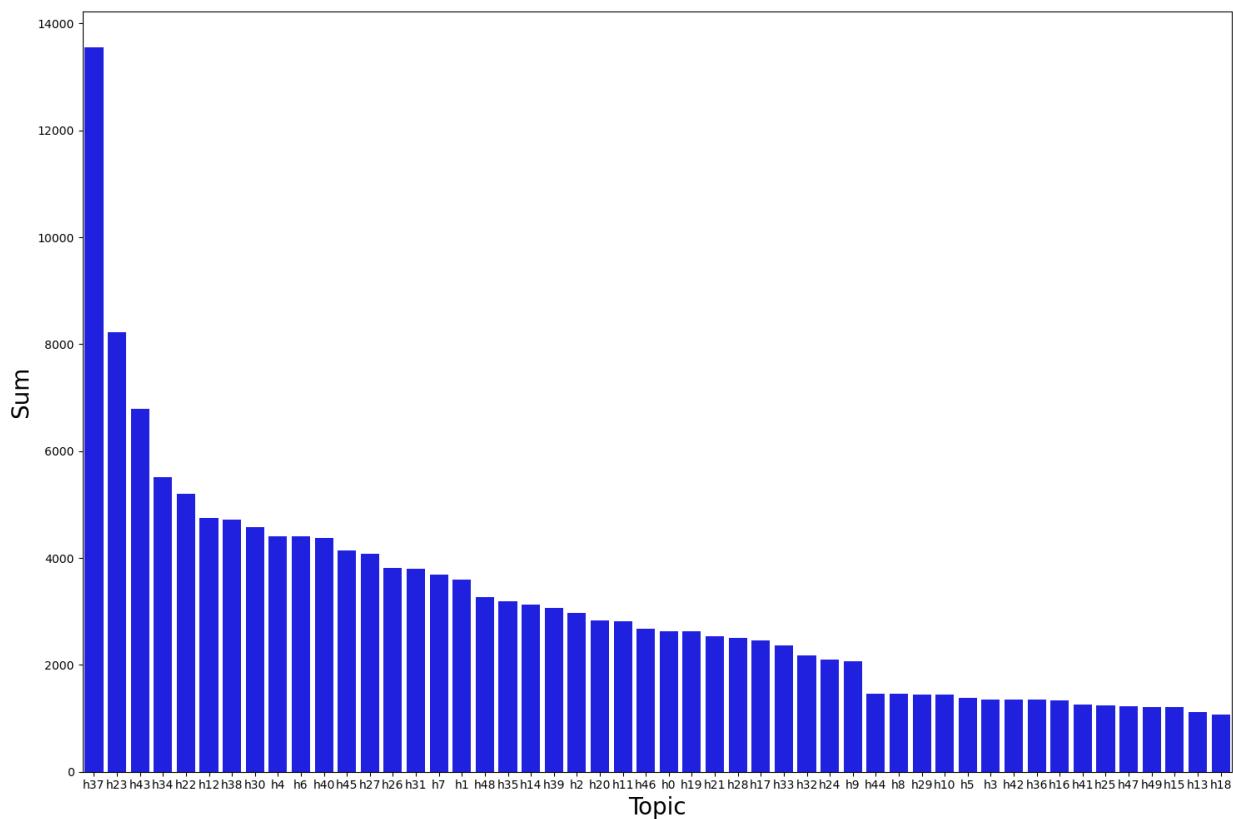


Figure 1: Topic sum

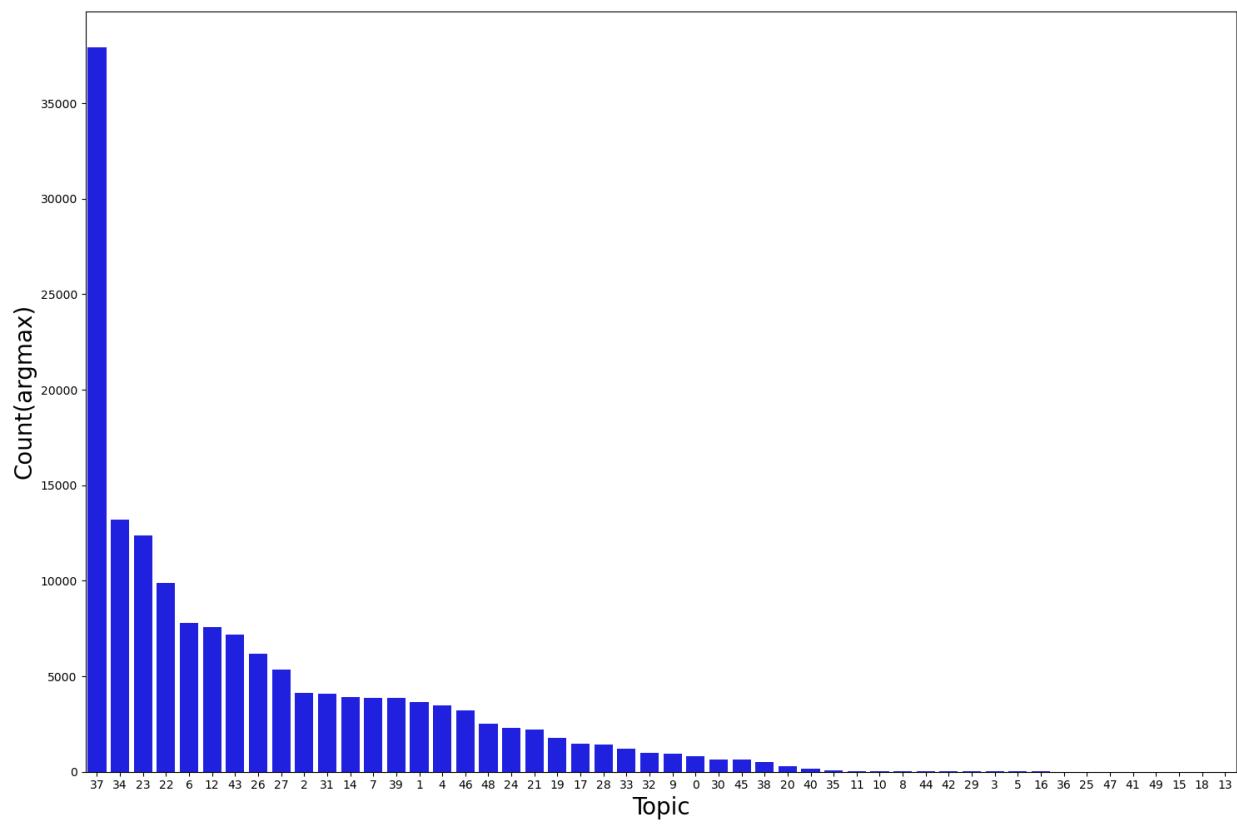


Figure 2: Topic argmax

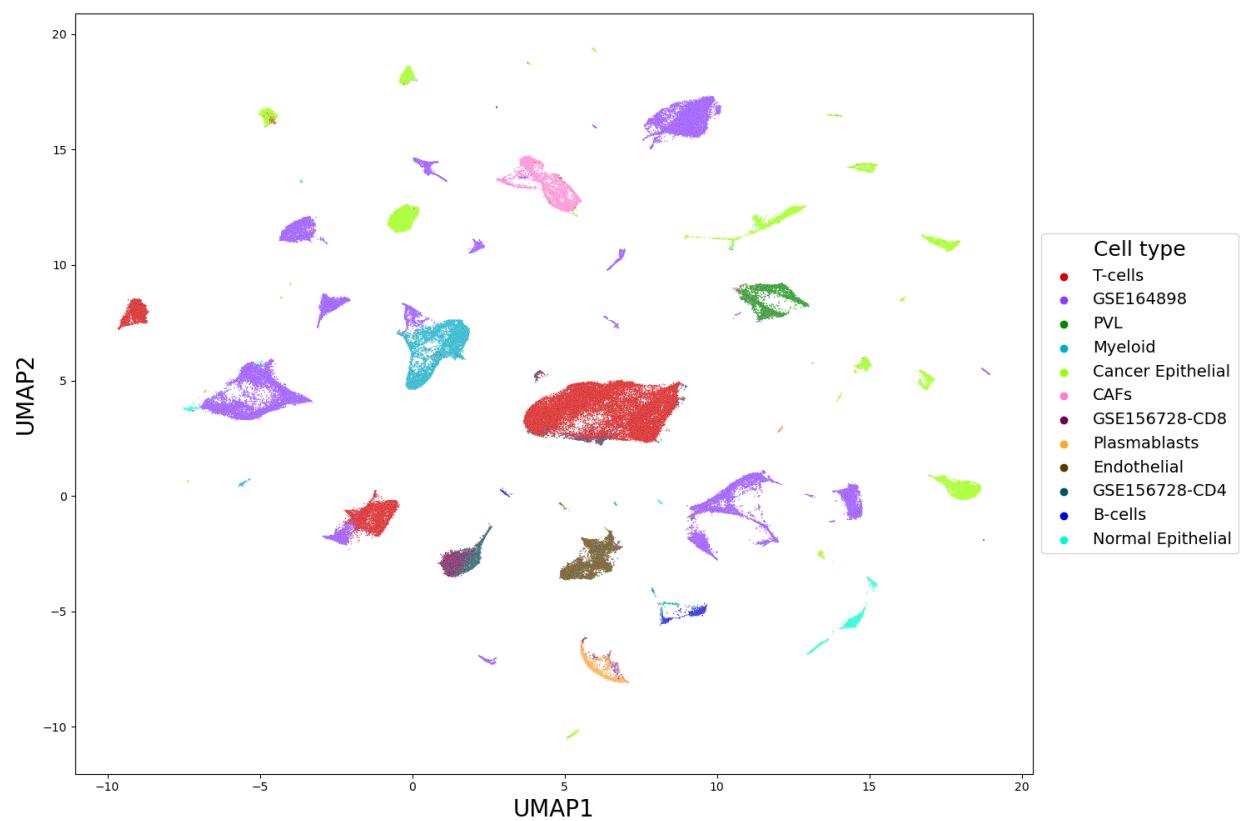


Figure 3: UMAP cell-type

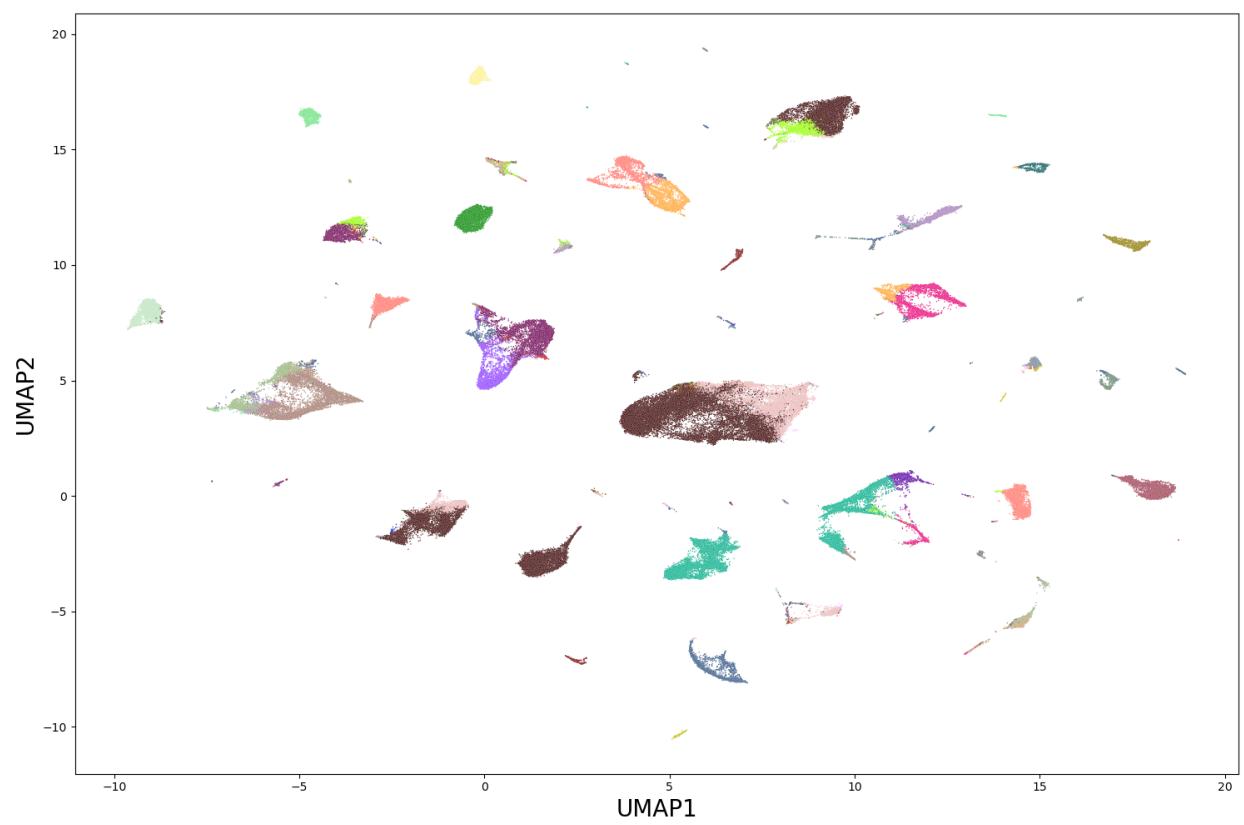


Figure 4: UMAP topic

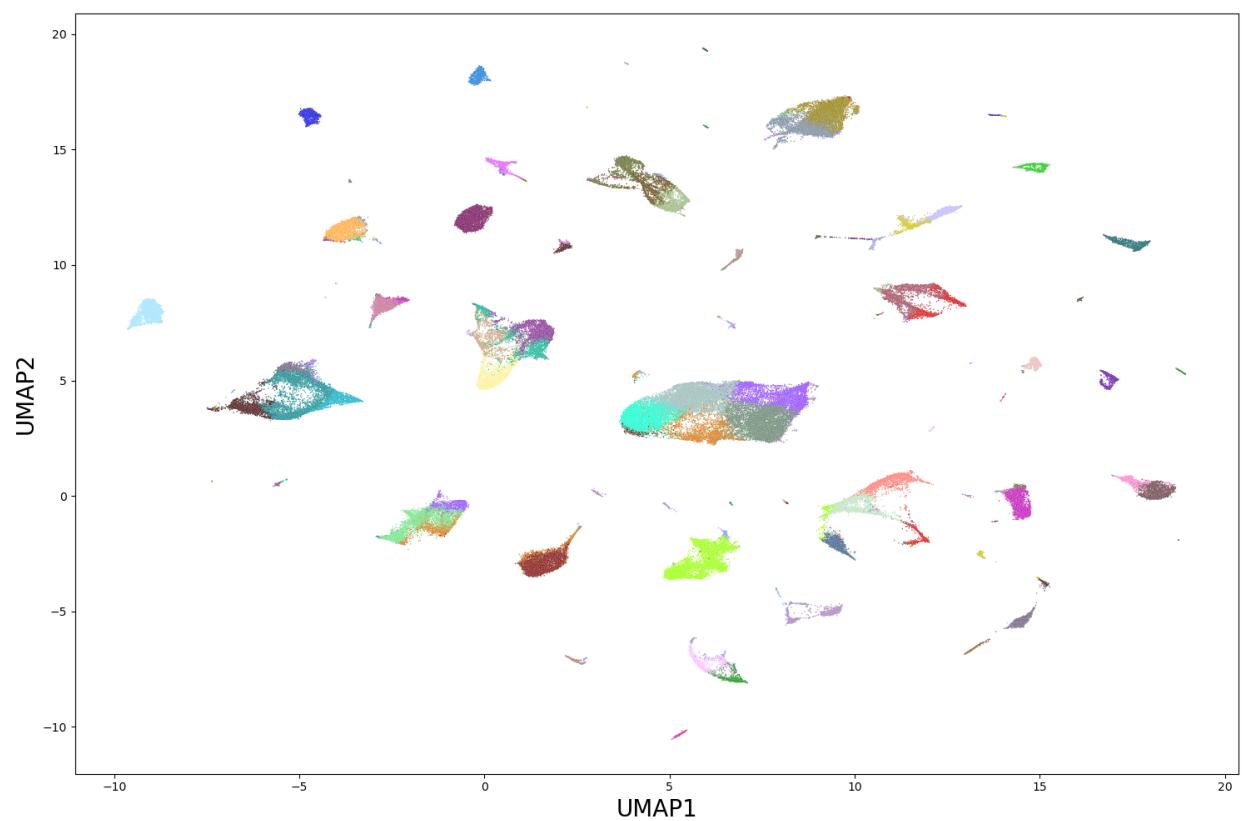


Figure 5: UMAP-kmeans ( $k=50$ )

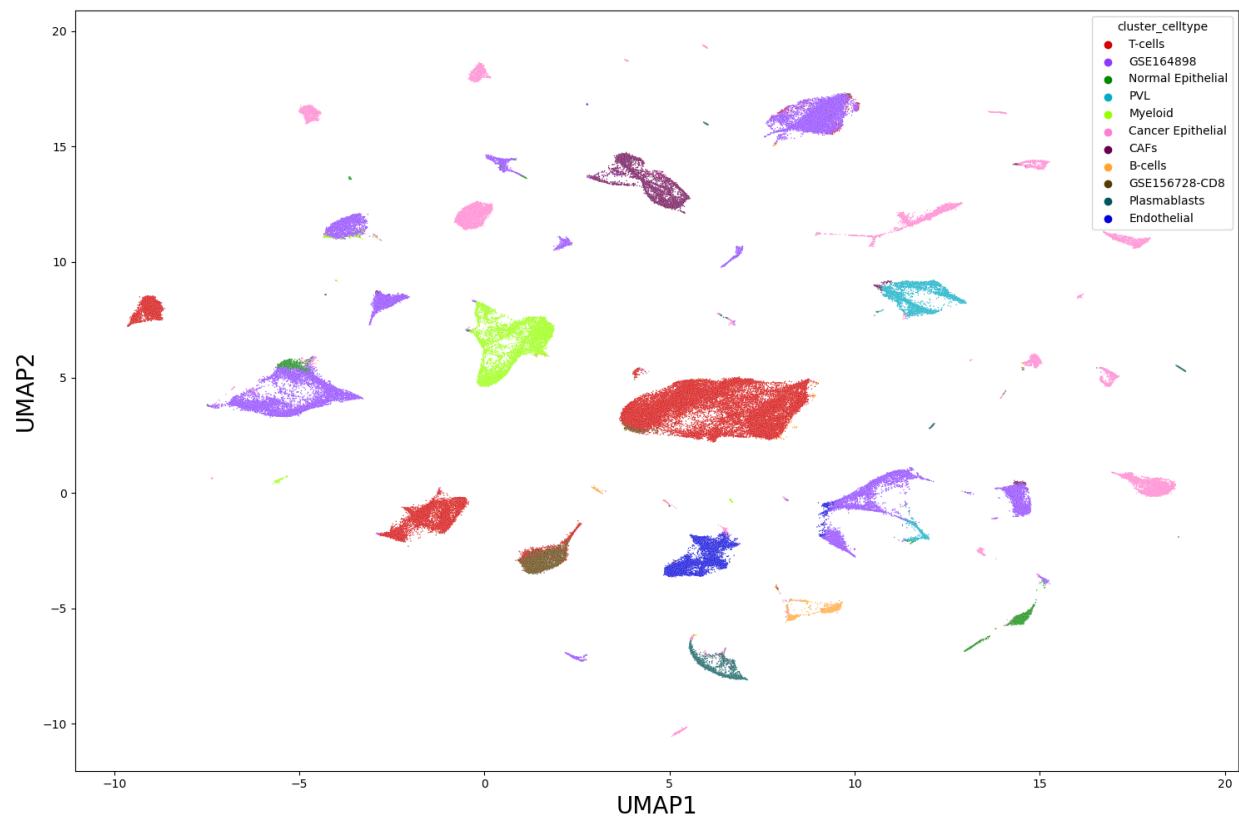


Figure 6: UMAP-kmeans( $k=50$ ) cell-type

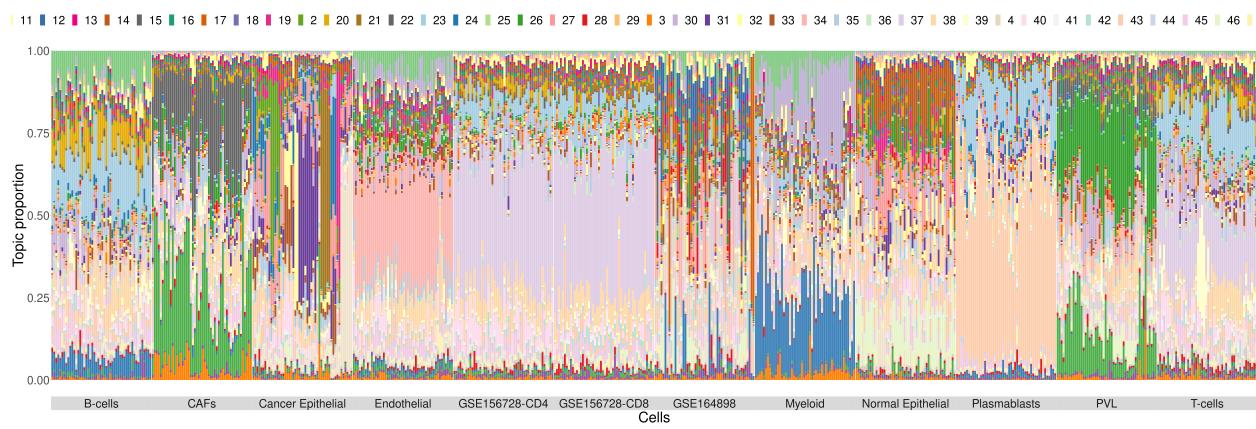


Figure 7: Structure plot cell-type

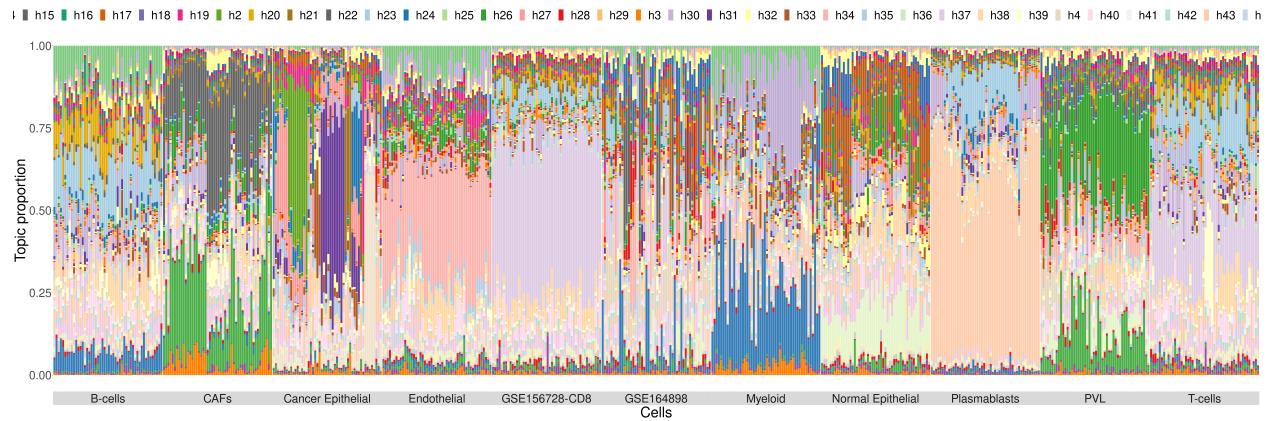


Figure 8: Structure plot kmeans majority cell-type

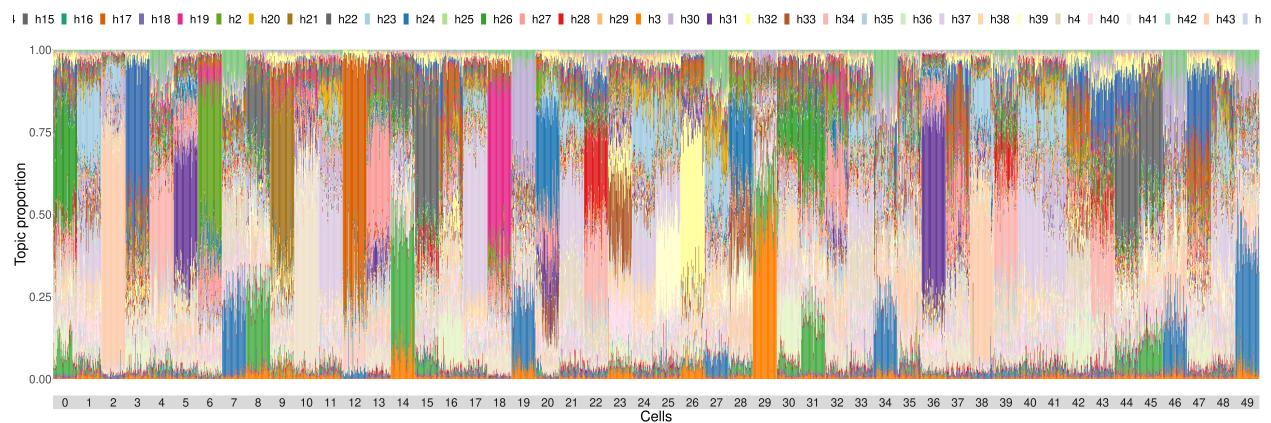


Figure 9: Structure plot kmeans cluster

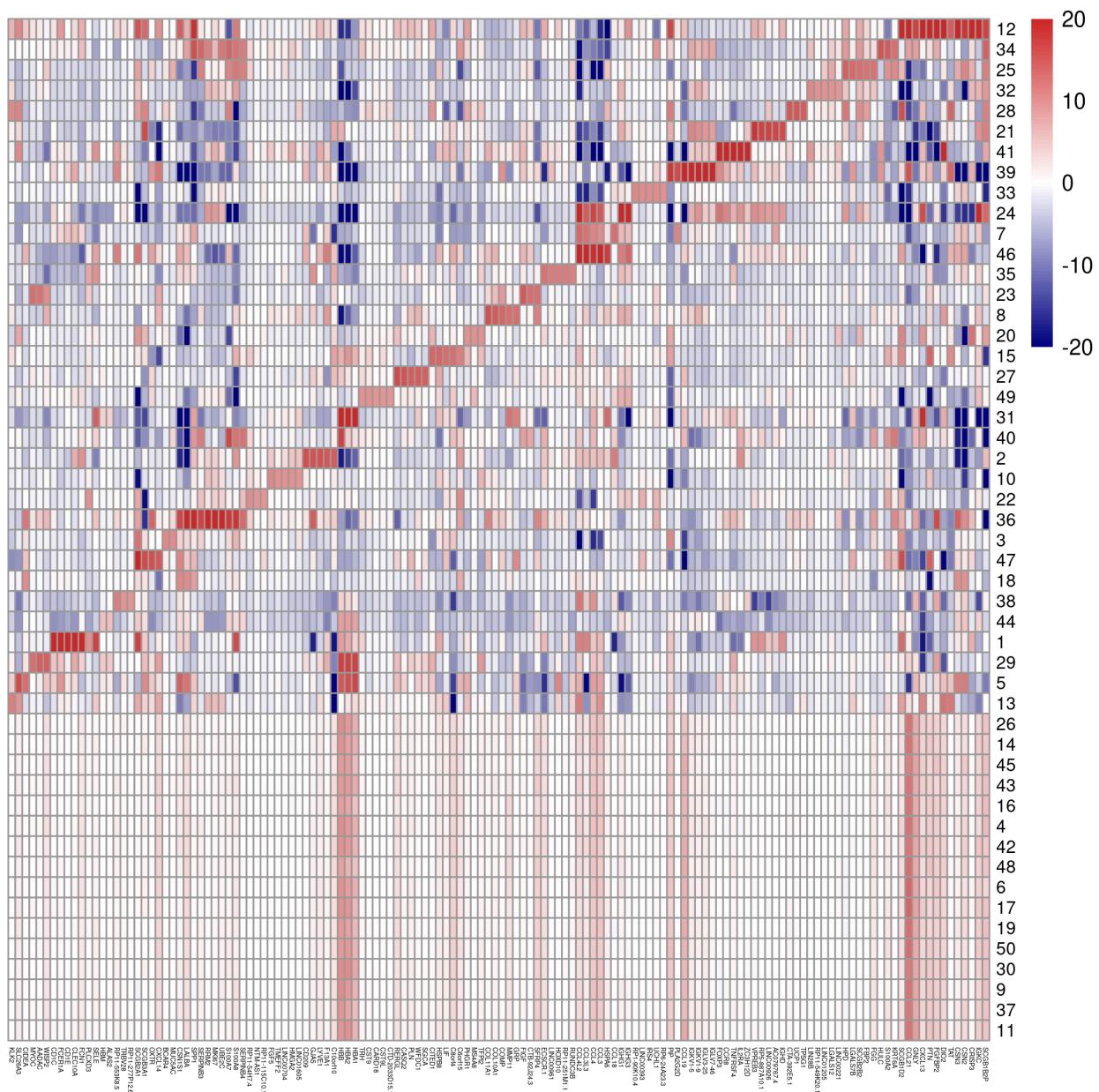


Figure 10: Beta - top genes

## Interaction topic analysis

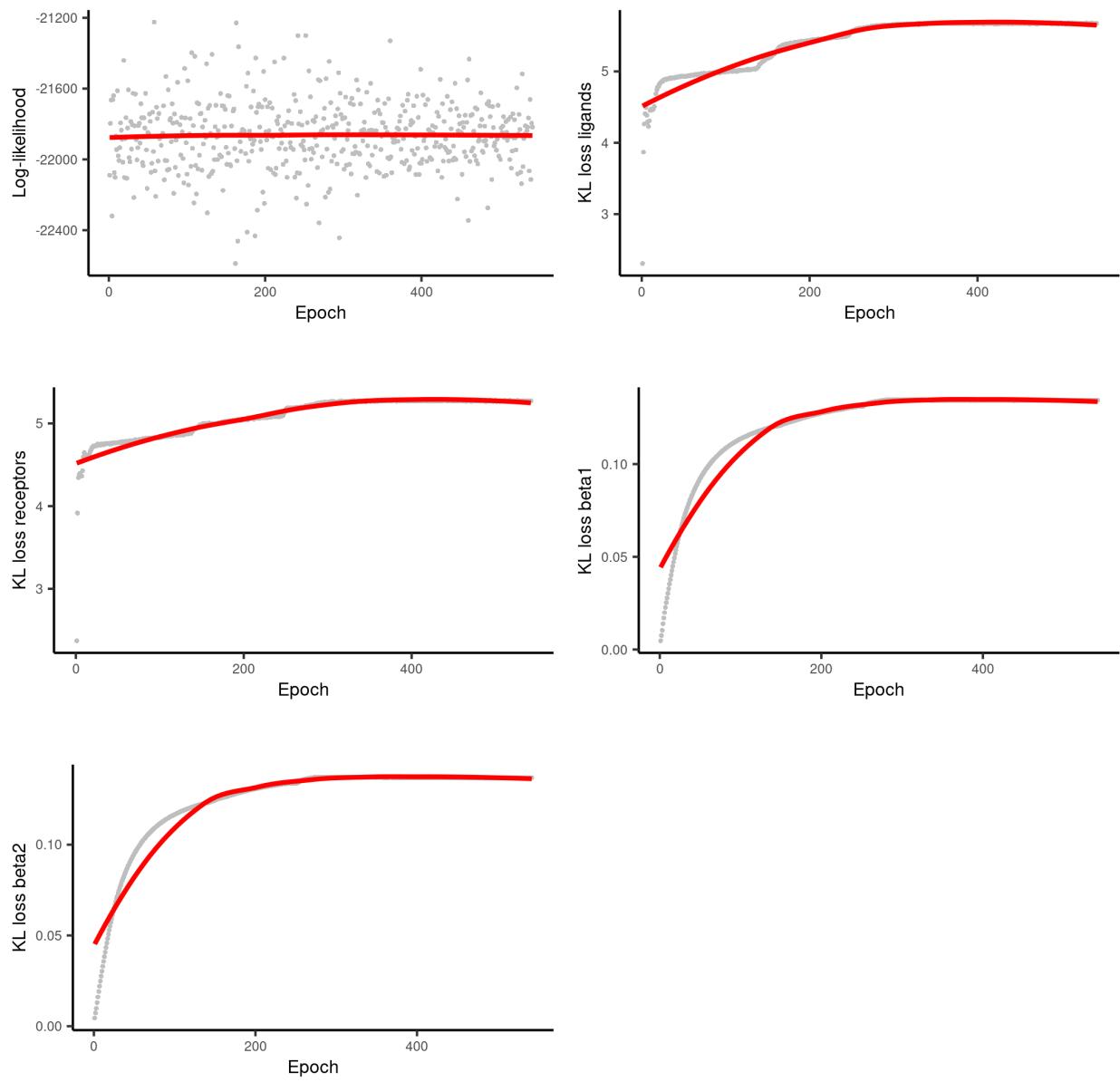


Figure 11: Loss plot

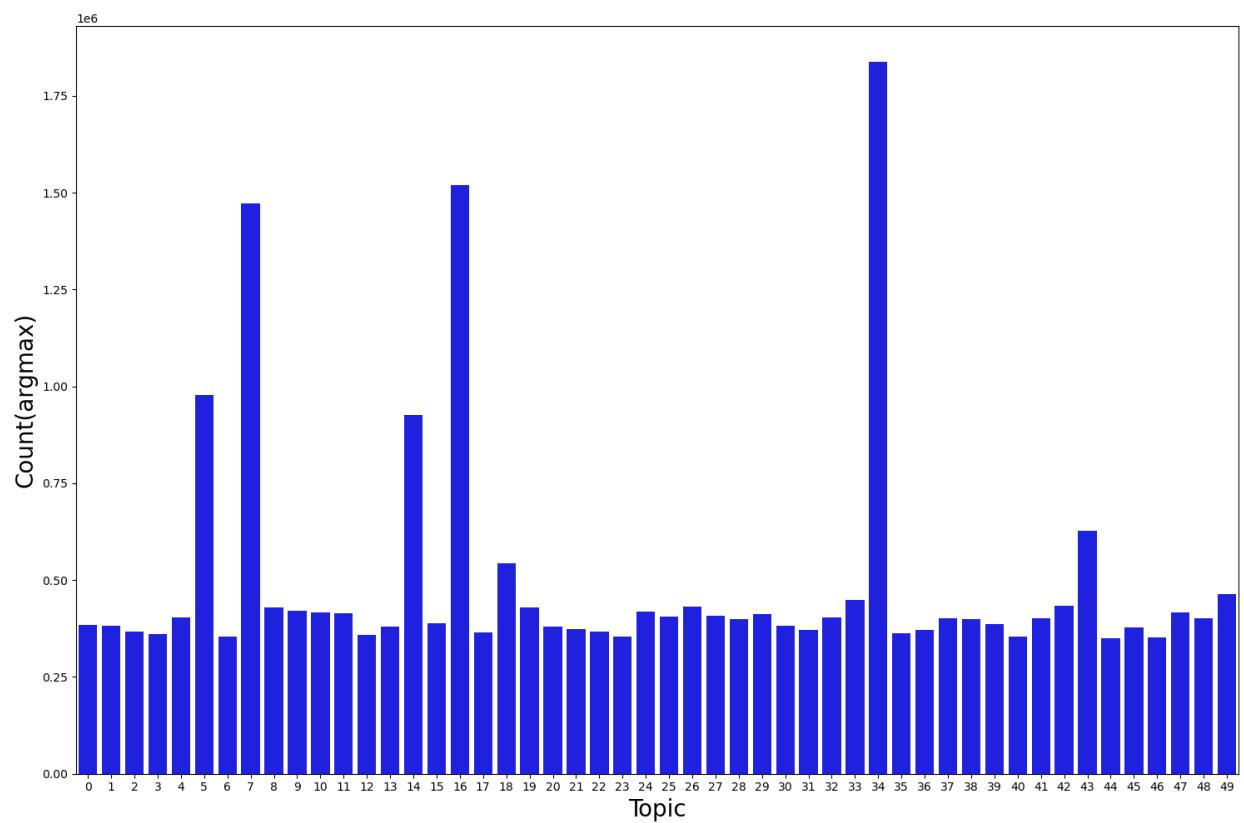


Figure 12: Interaction topic argmax

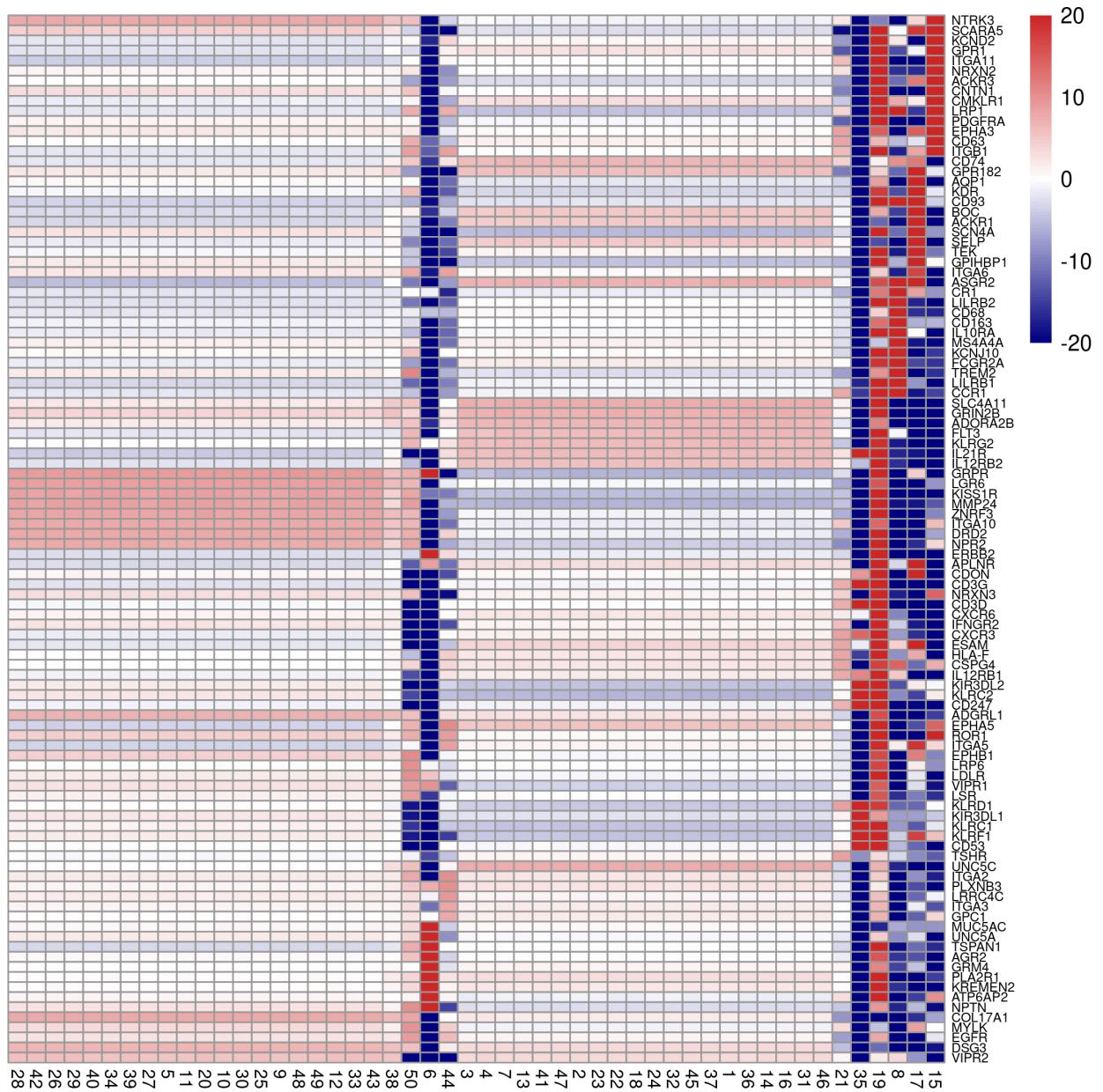


Figure 13: Beta - top receptor genes

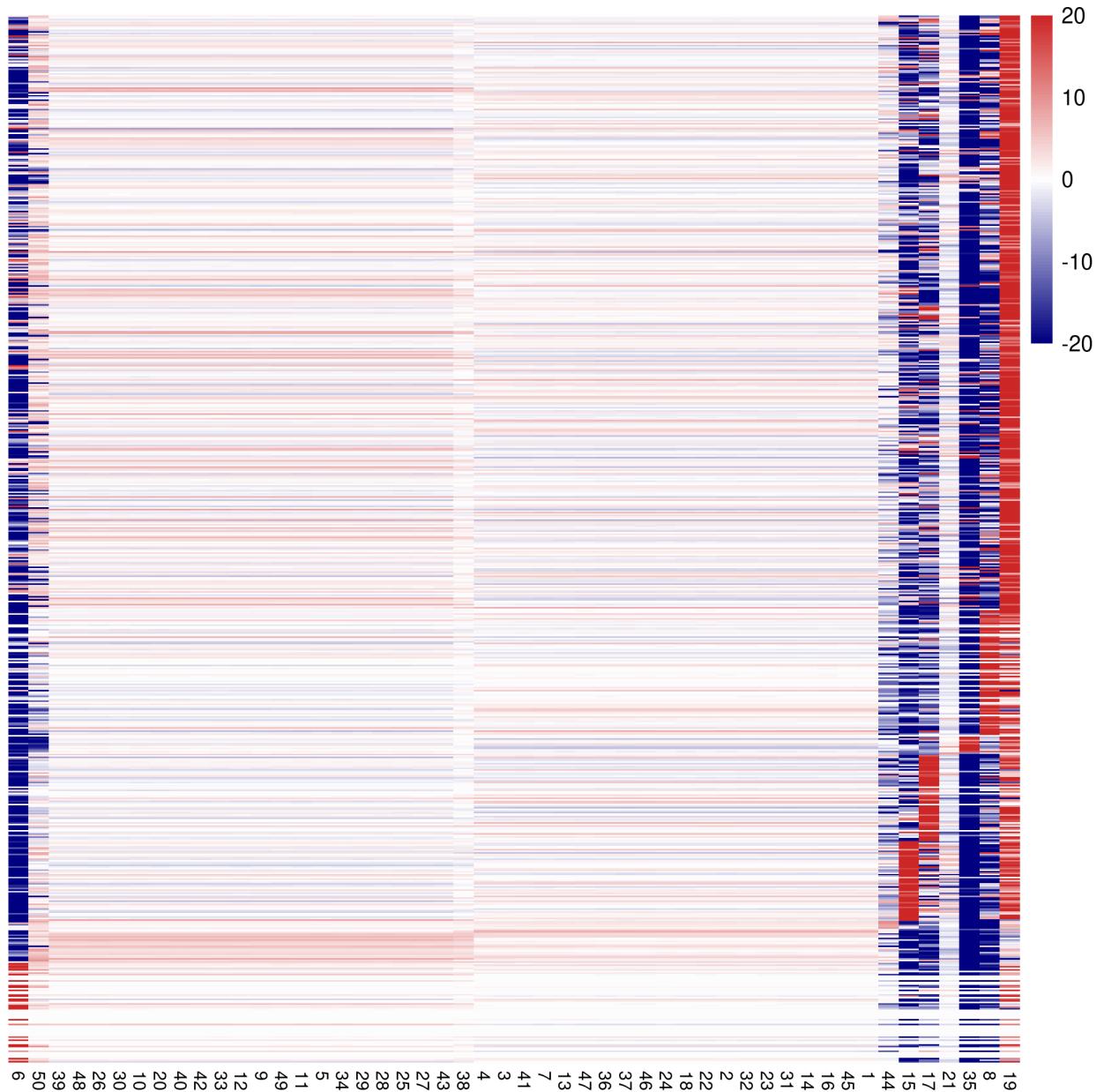


Figure 14: Beta - all receptor genes

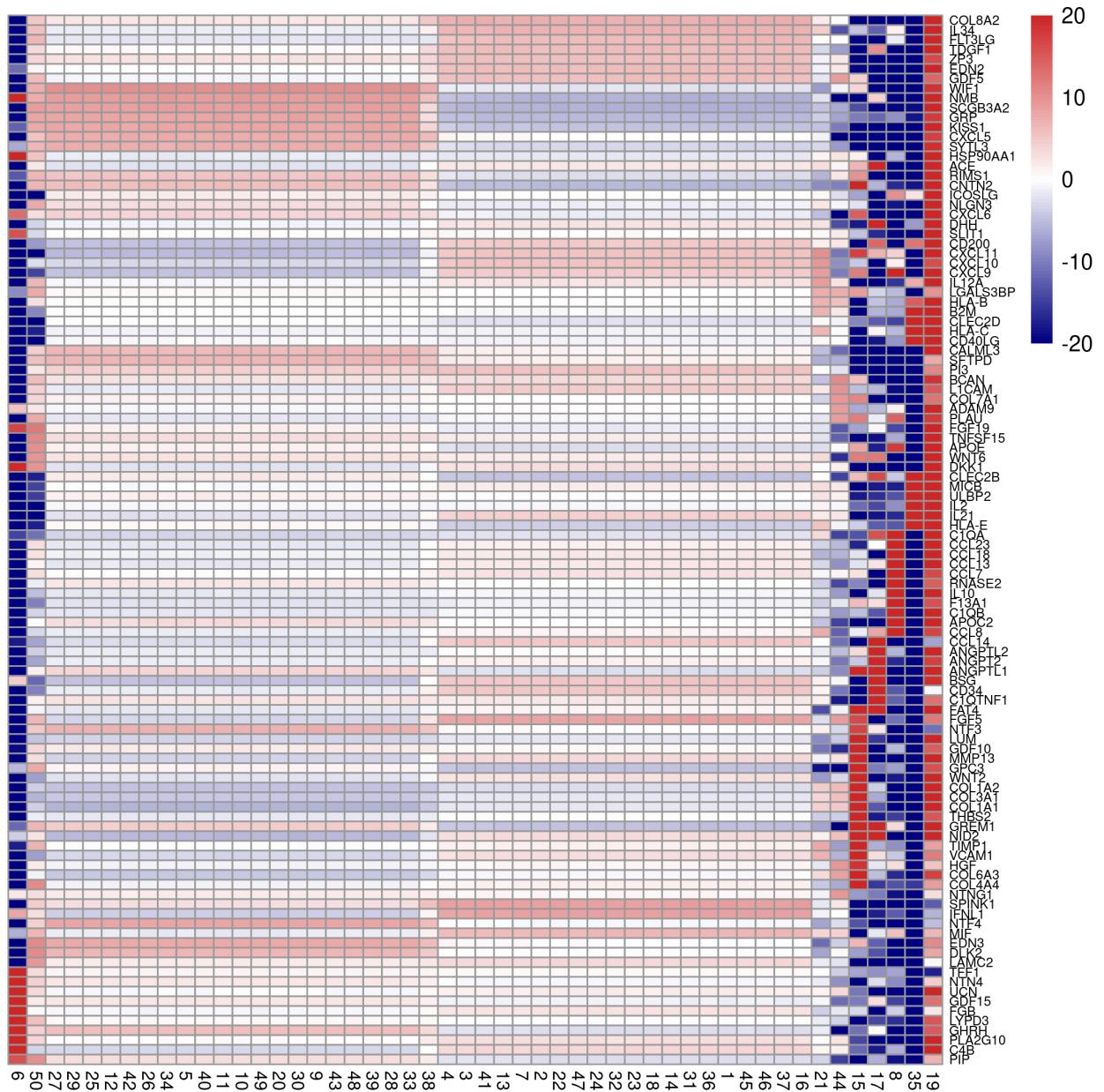


Figure 15: Beta - top ligand genes

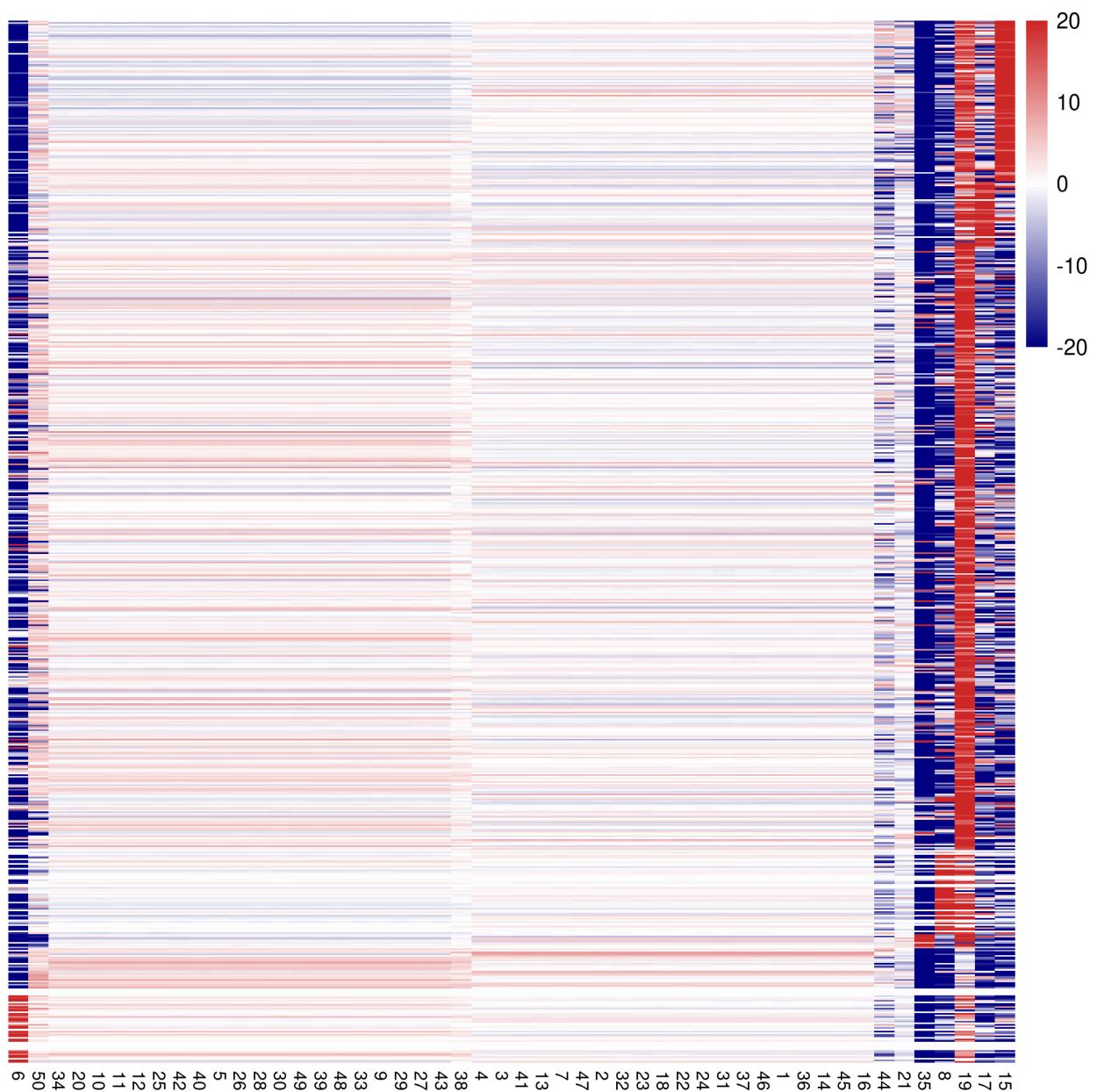


Figure 16: Beta - all ligand genes

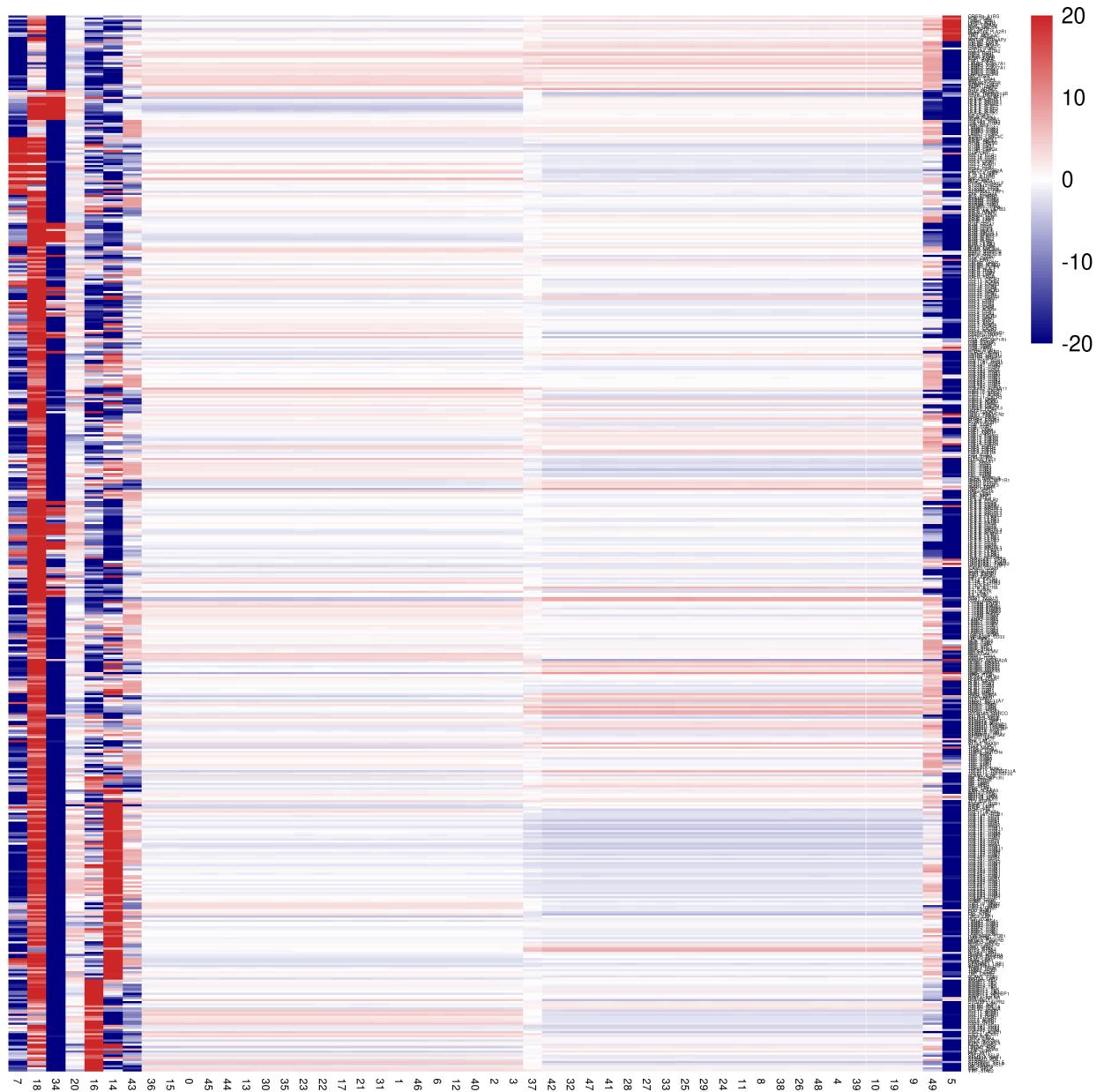


Figure 17: Beta - top lr pair genes

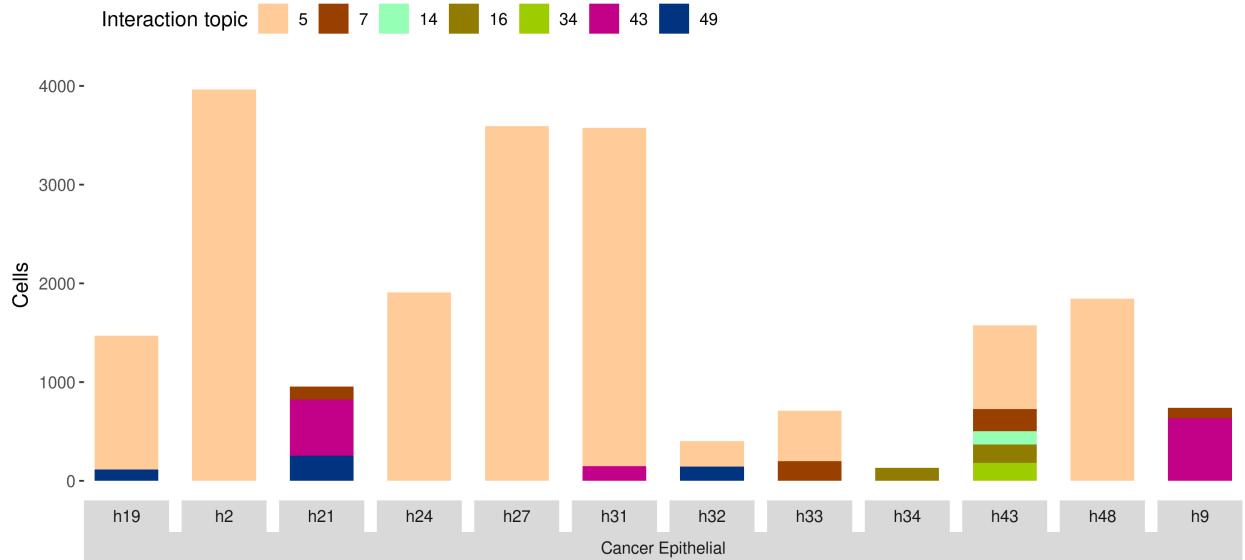


Figure 18: Model summary - cancer cells

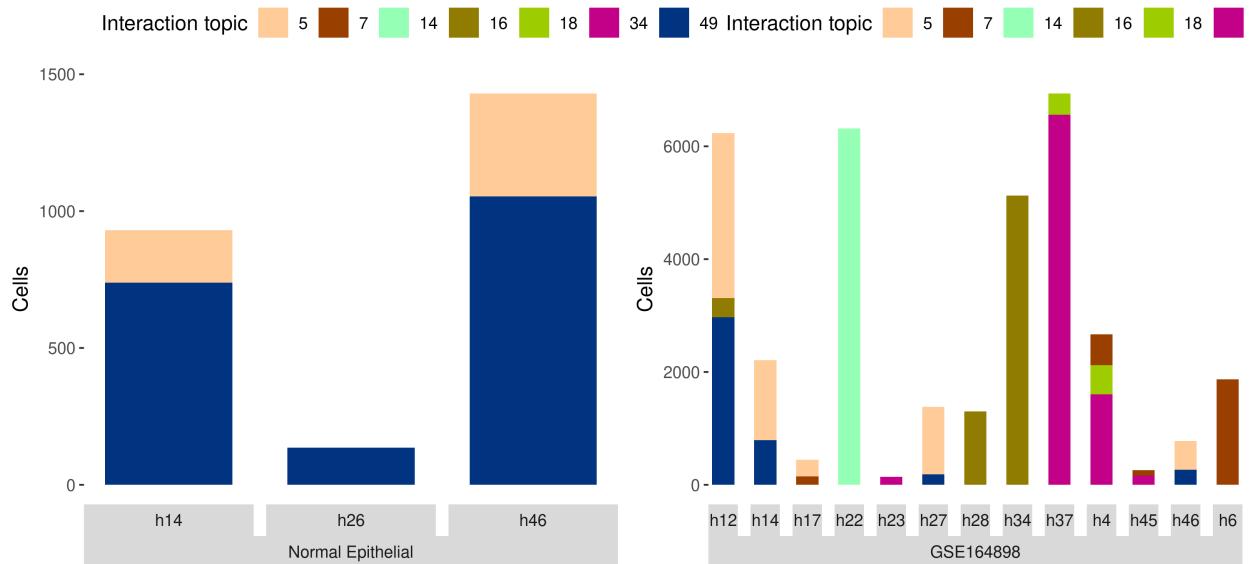


Figure 19: Model summary - normal cells

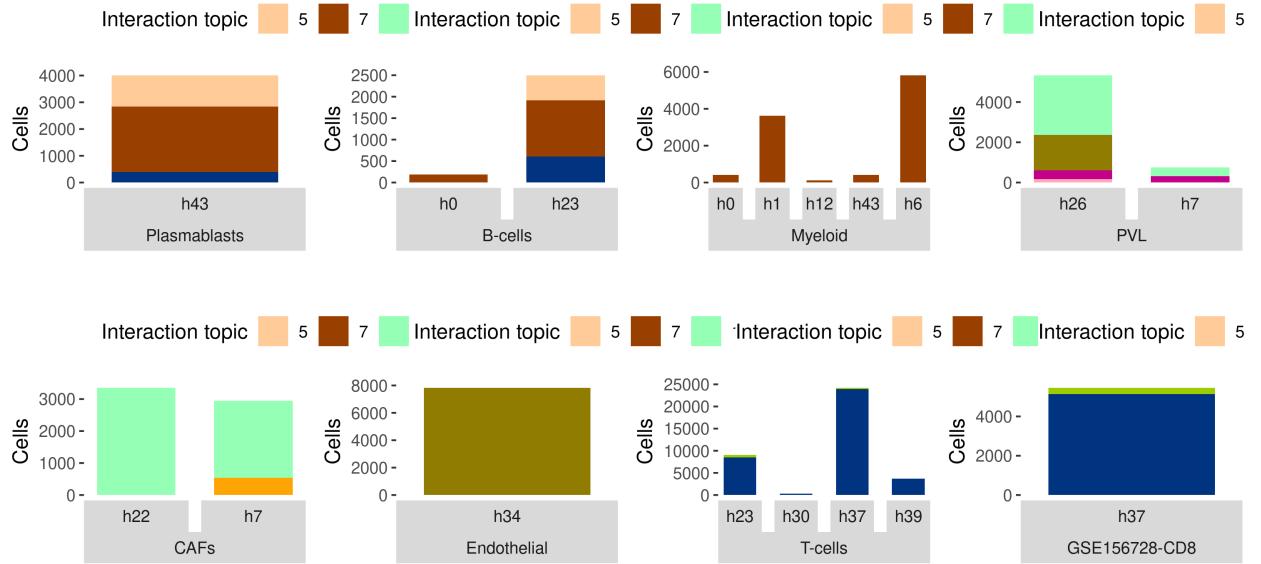


Figure 20: Model summary - others

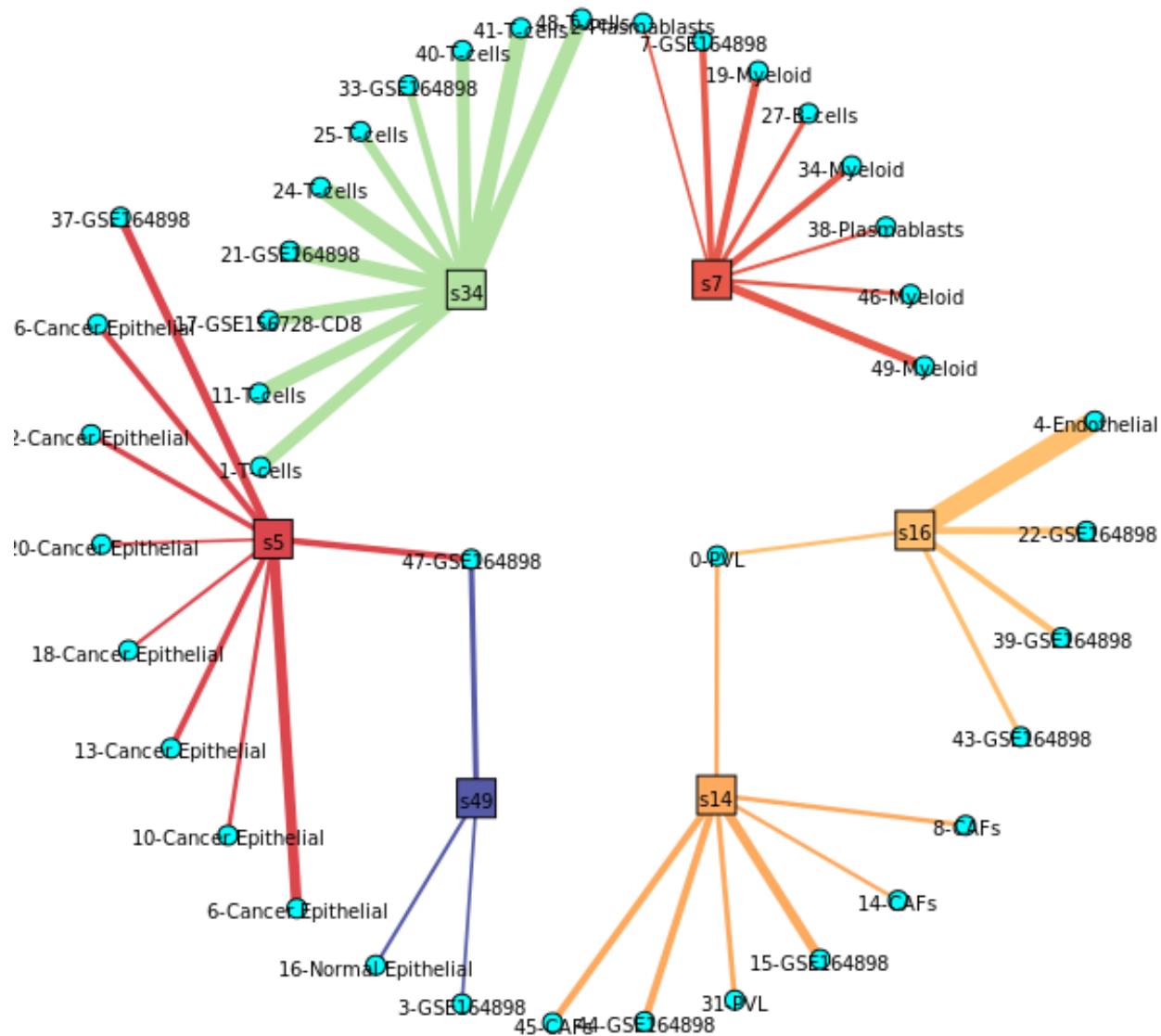


Figure 21: Network plot

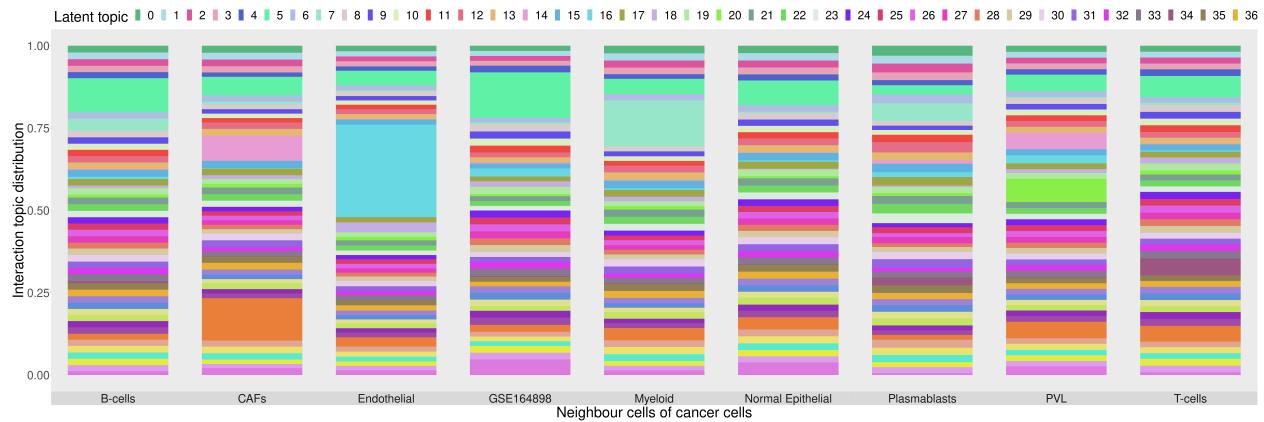
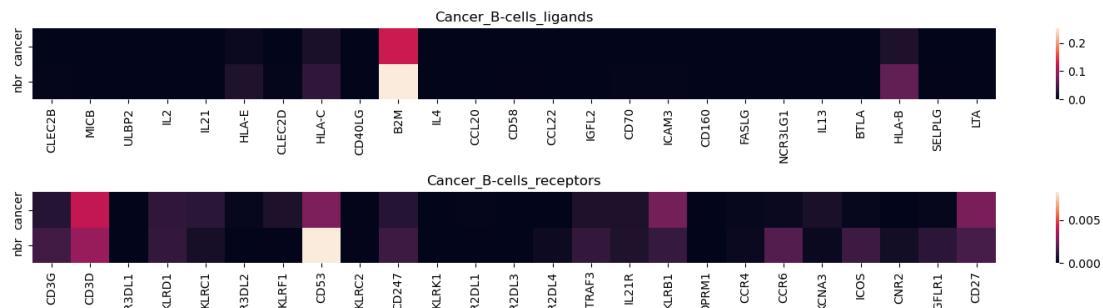


Figure 22: Cancer centric view



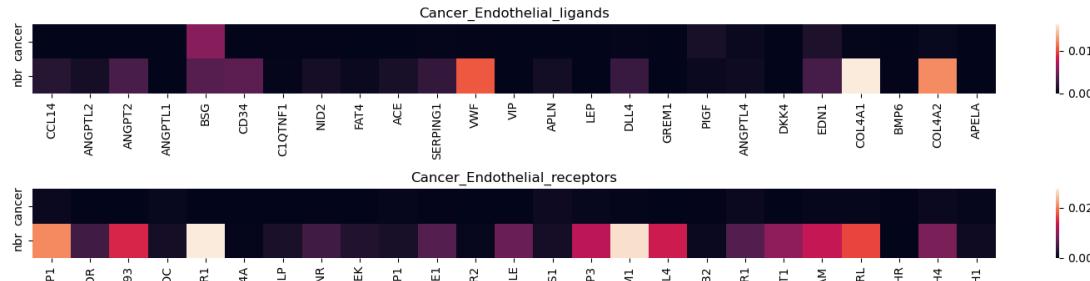


Figure 25: Cancer centric view - Endothelial

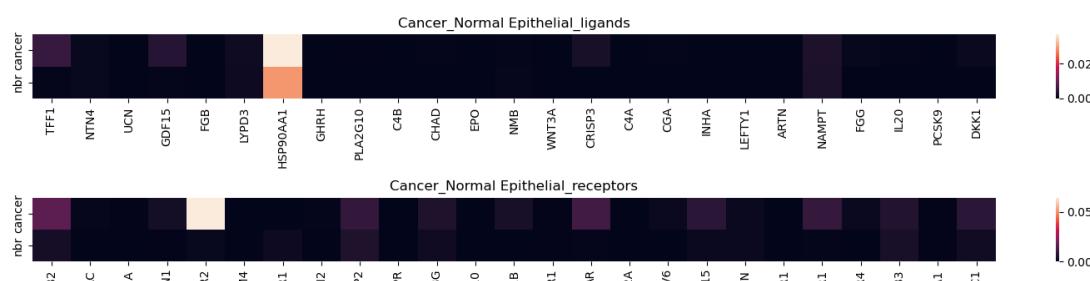


Figure 26: Cancer centric view - Normal Epithelial

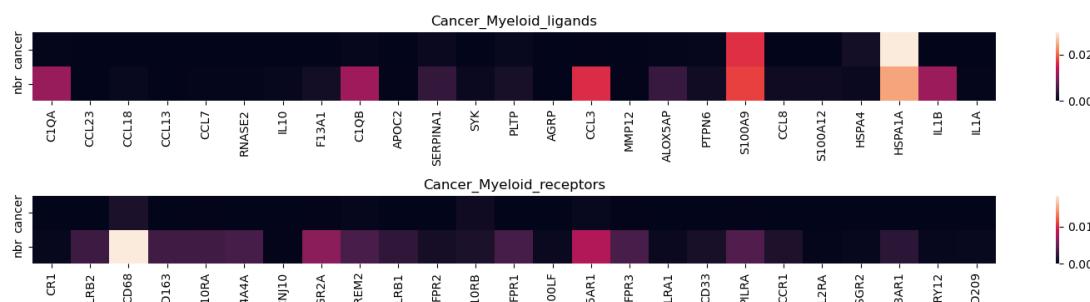


Figure 27: Cancer centric view - Myeloid

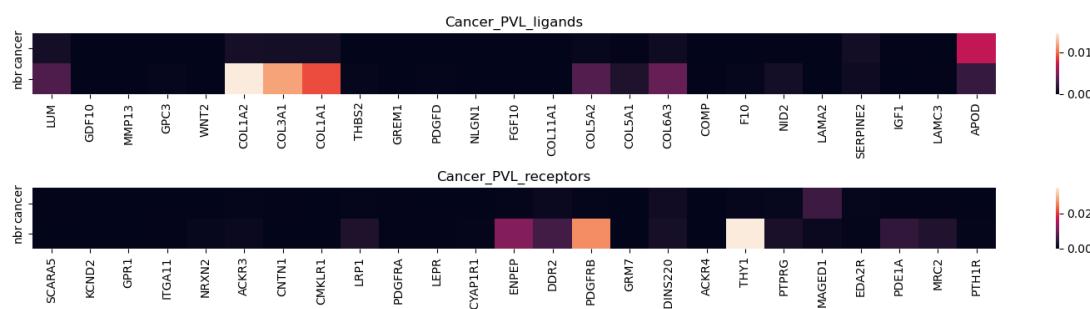


Figure 28: Cancer centric view - PVL