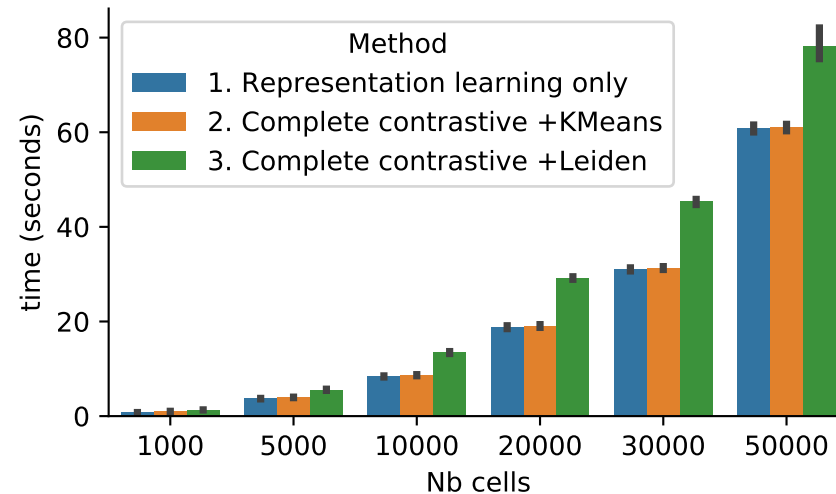


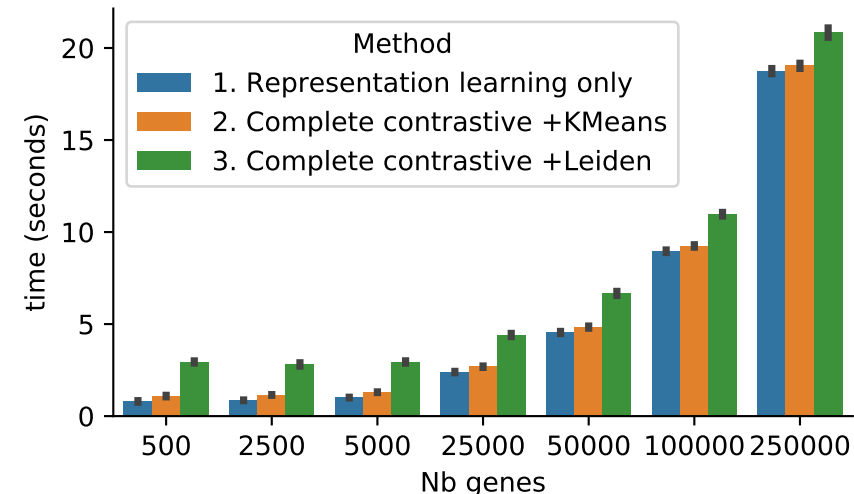
(a)

	Avg time(sec)	Factor
pca_kmeans	1.25	0.23
constrastive+KM	5.38	1.0
scrna	9.65	1.79
cidr	10.01	1.86
scanpy-seurat	10.62	1.97
constrastive+KM CPU	12.23	2.27
soup	12.9	2.4
raceid	12.98	2.41
constrastive+LD	13.4	2.49
constrastive+LD CPU	20.05	3.73
scedar	37.2	6.91
desc	43.08	8.0
scvi	98.41	18.28
scziDesk	189.88	35.28
scDeepCluster	6121.42	1137.38

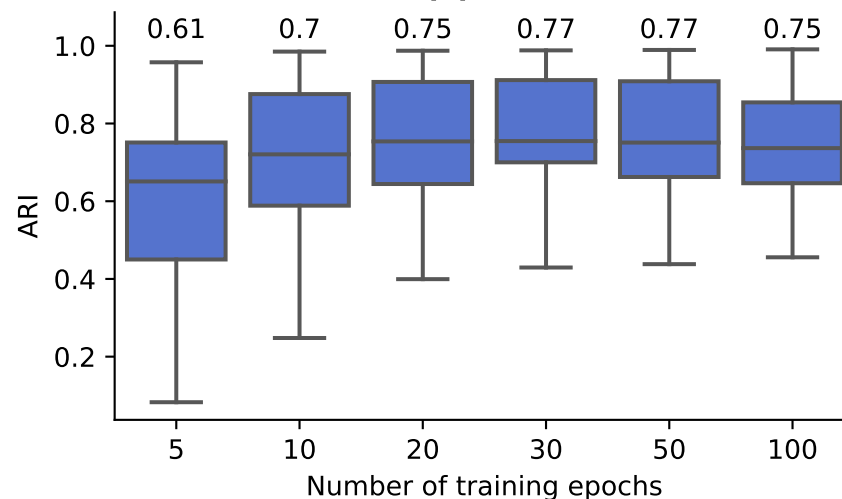
(b)



(c)



(c) ARI



(d) Silhouette

