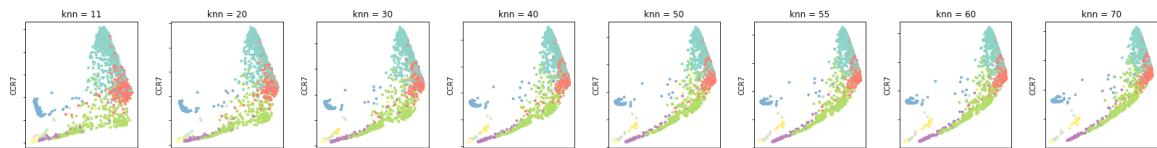
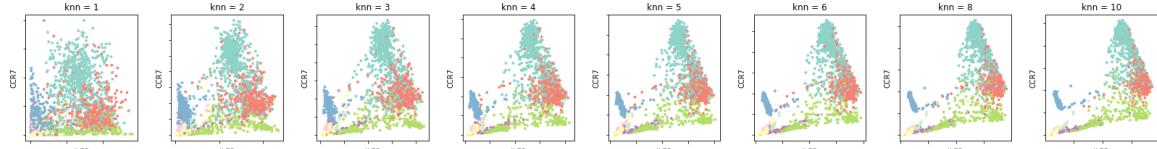
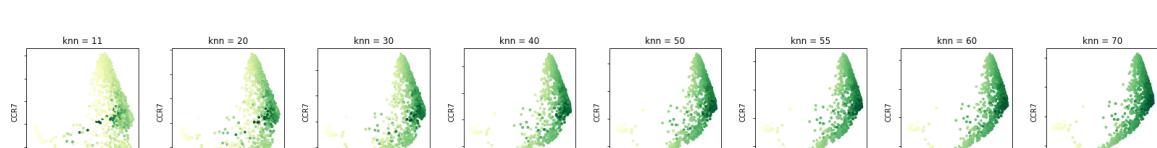
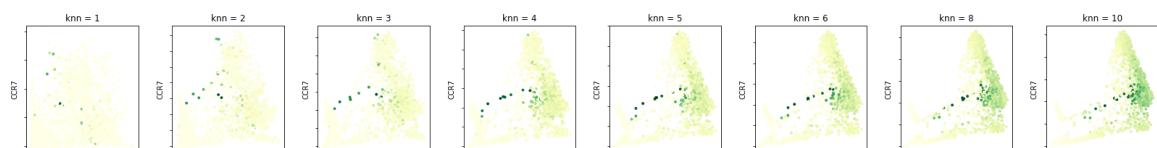


(A) UMAP projection of the distinct PBMC cell phenotypes

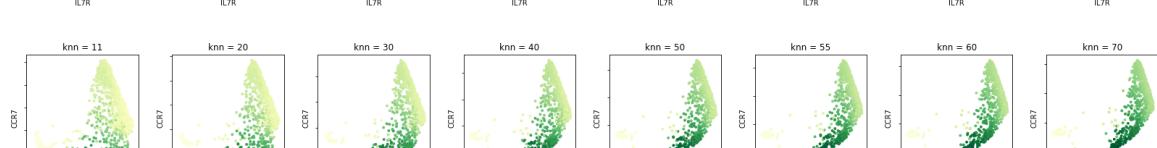
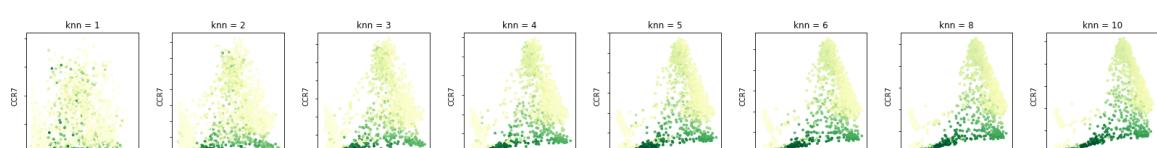
MAGIC imputation evaluation of knn (cell information sharing) with t = 5 pca= 30



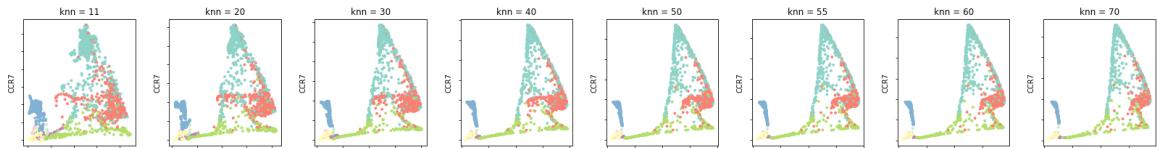
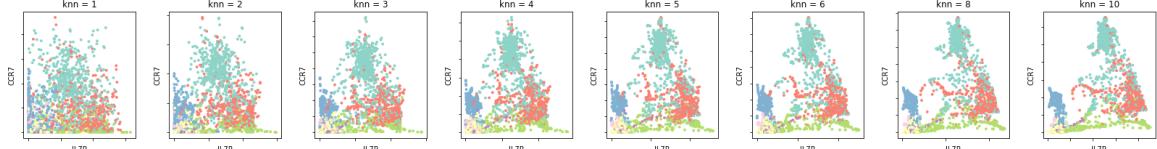
FOXP3



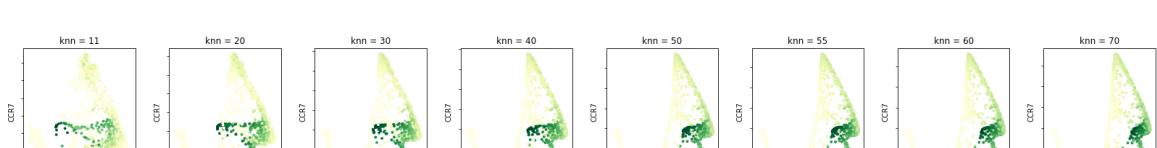
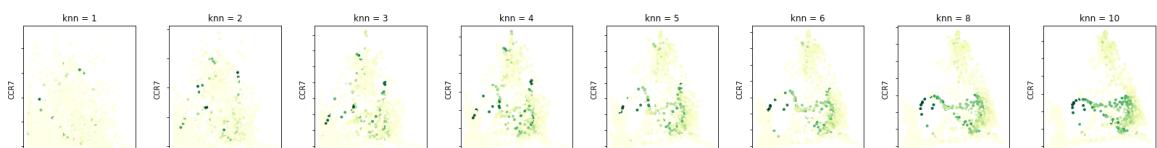
CD8A



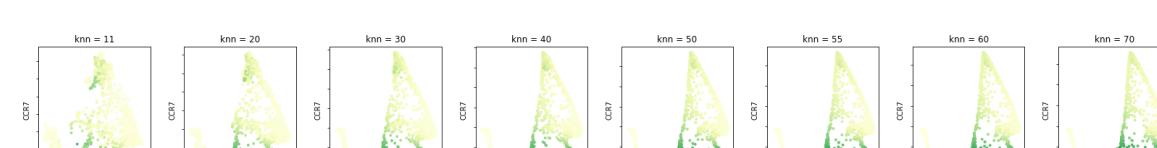
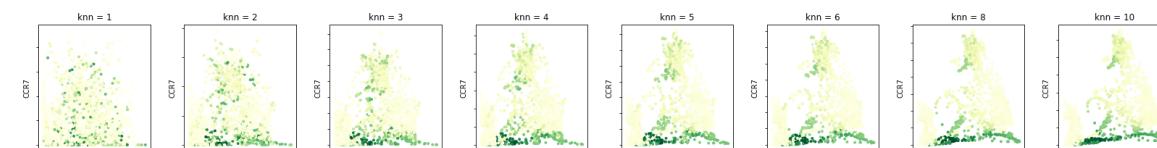
sc-PHENIX imputation evaluation of knn (cell information sharing) with t = 5 pca= 30



FOXP3



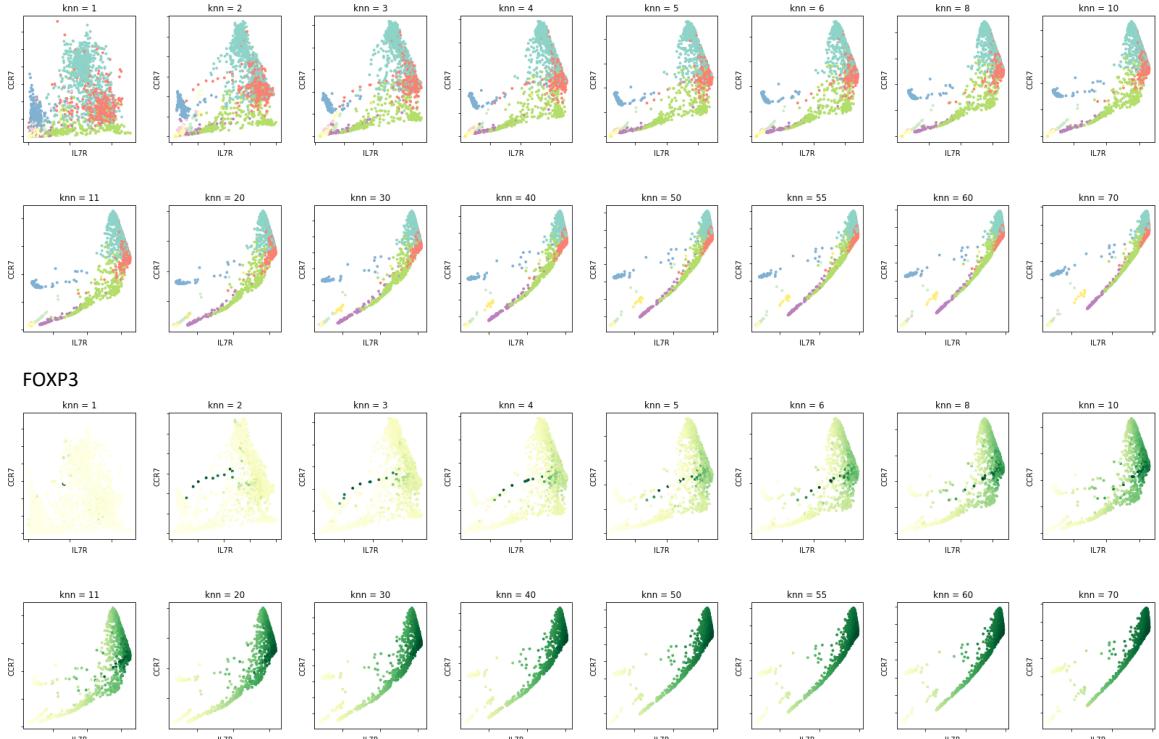
CD8A



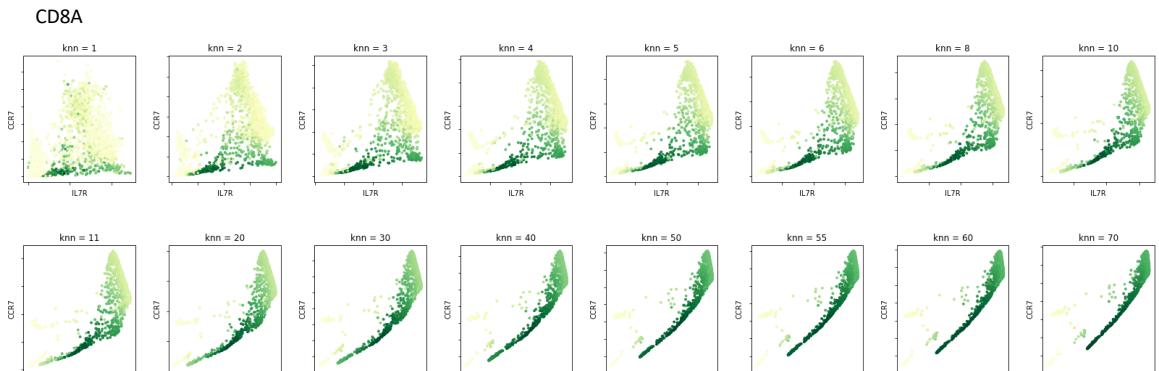
Gene expression

(B) Imputation evaluation of increasing values of knn with t = 5 (few random walks), pca= 30 using MAGIC and sc-PHENIX(PCA-UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.

MAGIC imputation evaluation of knn (cell information sharing) with t = 10 pca= 30

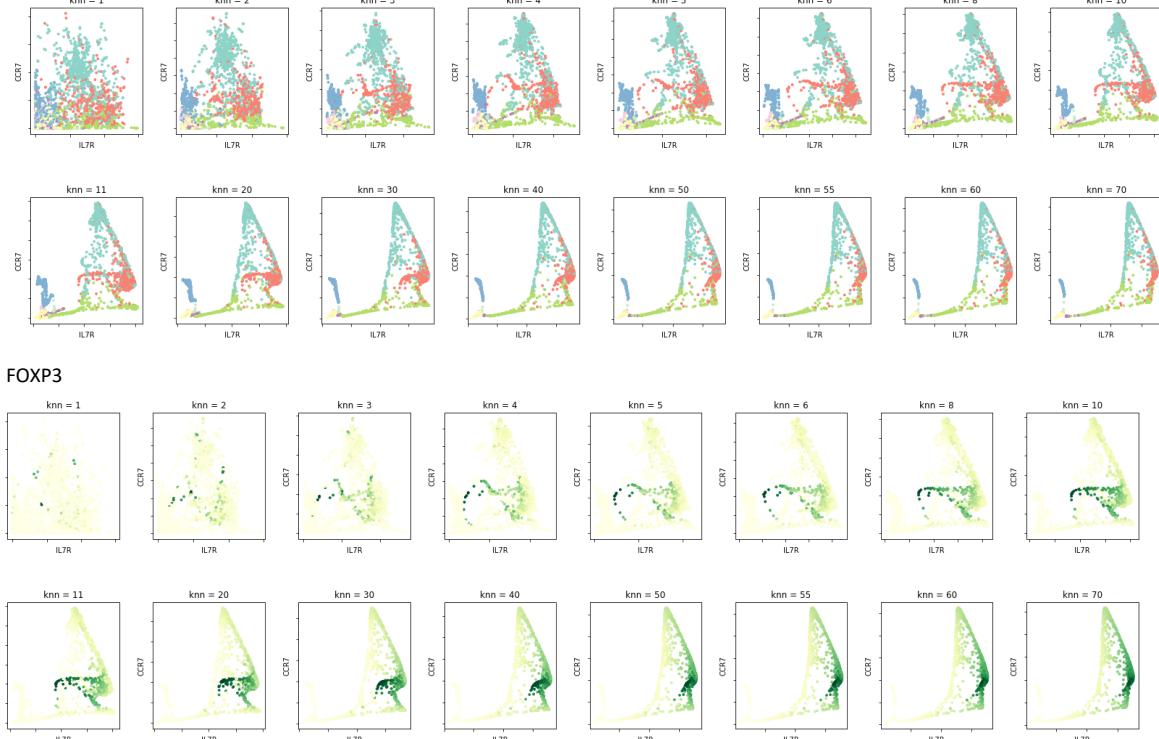


FOXP3

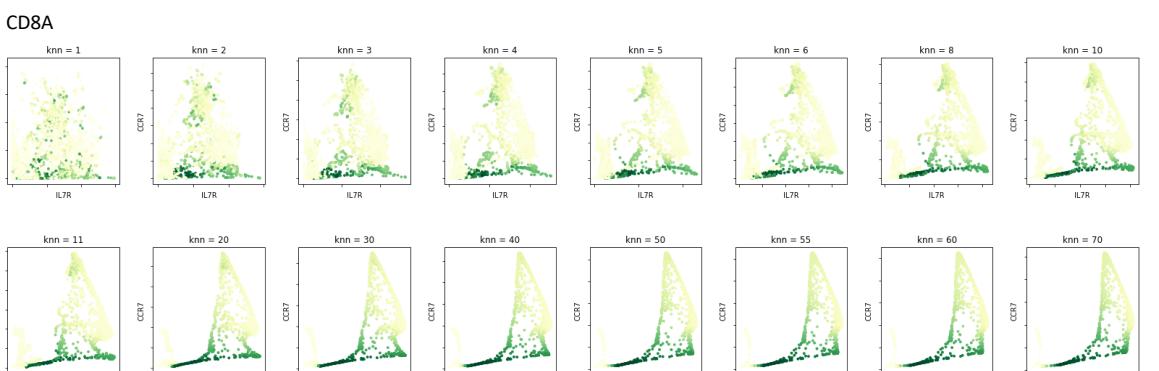


CD8A

sc-PHENIX imputation evaluation of knn (cell information sharing) with t = 10 pca= 30



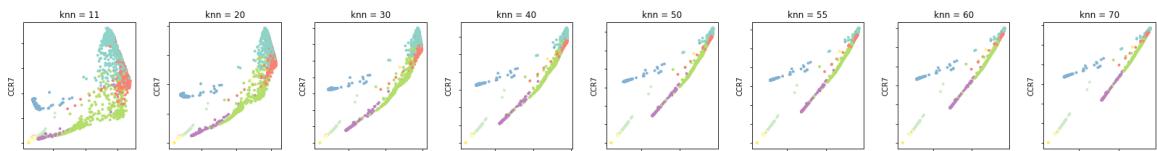
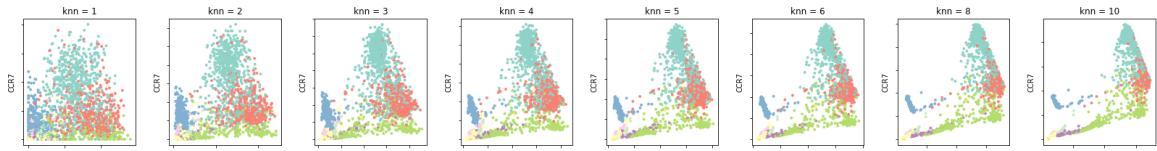
CD8A



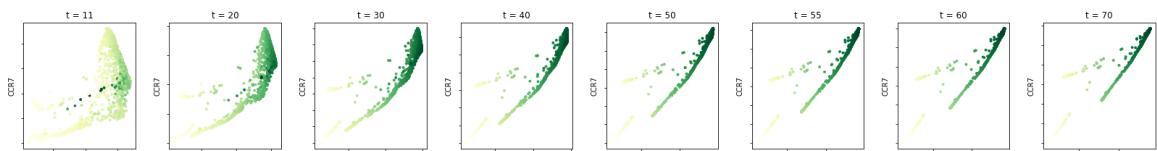
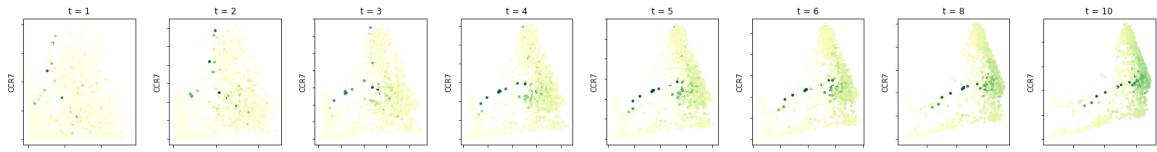
Gene expression

(C) Imputation evaluation of increasing values of knn with t = 10 (more random walks) pca= 30 using MAGIC and sc-PHENIX(PCA-UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.

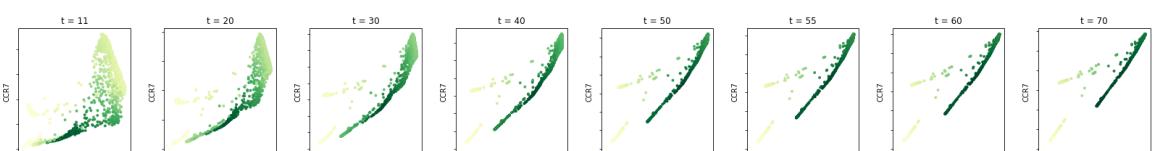
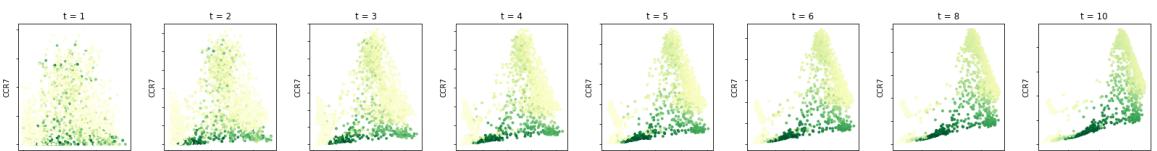
MAGIC imputation evaluation of t (diffusion time) with knn= 5 pca= 30



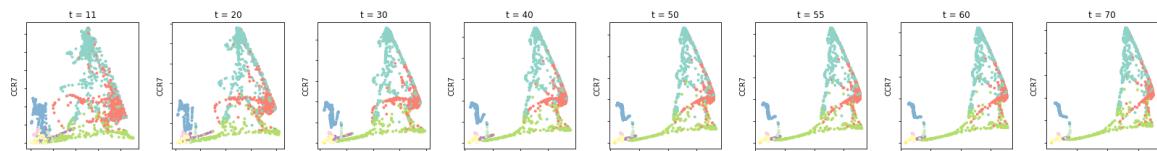
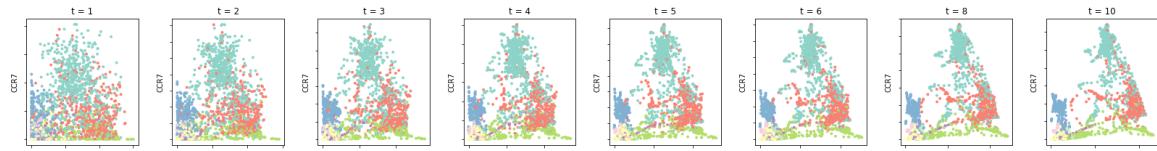
FOXP3



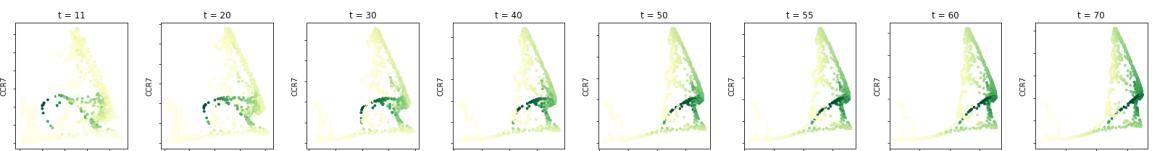
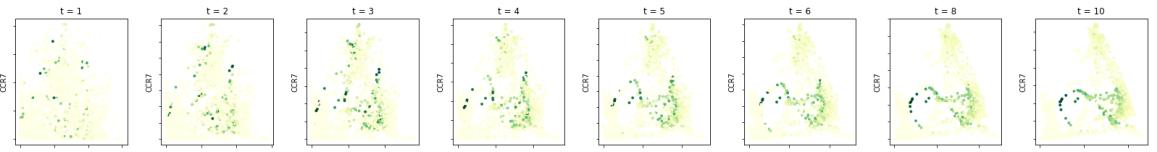
CD8A



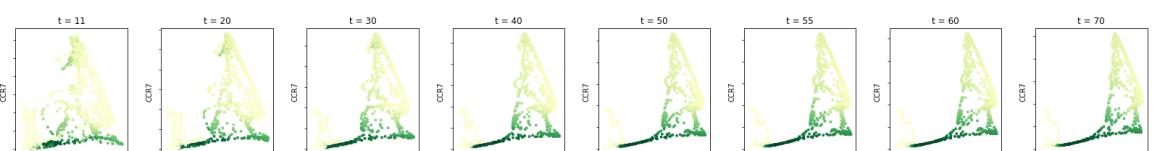
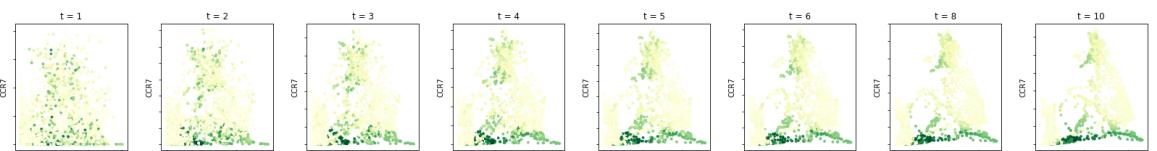
sc-PHENIX imputation evaluation of t (diffusion time) with knn= 5 pca= 30



FOXP3



CD8A

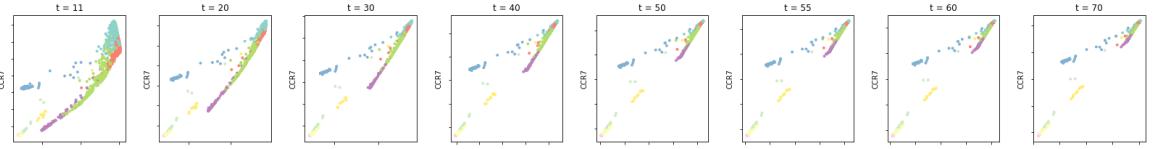
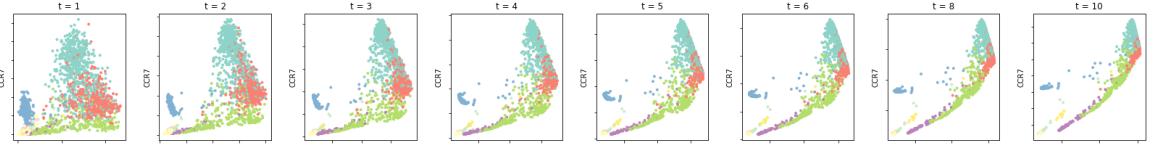


Gene expression

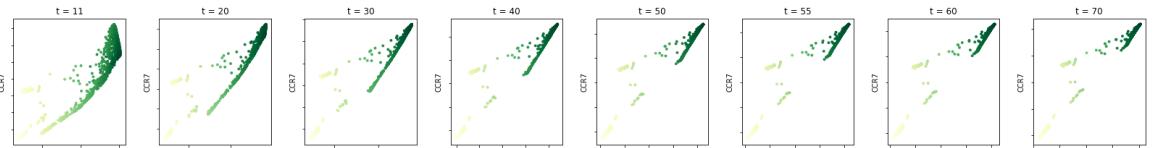
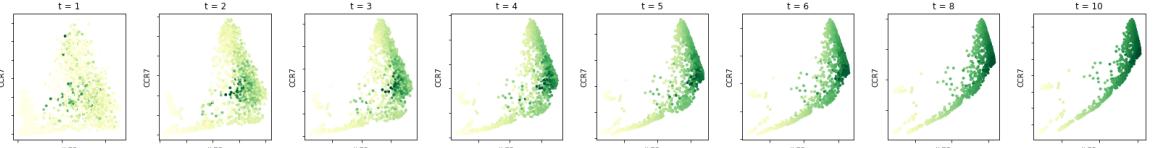


(D) Imputation evaluation of increasing values of t with knn=5 (less nearest neighbors) pca= 30 using MAGIC and sc-PHENIX(PCA-UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.

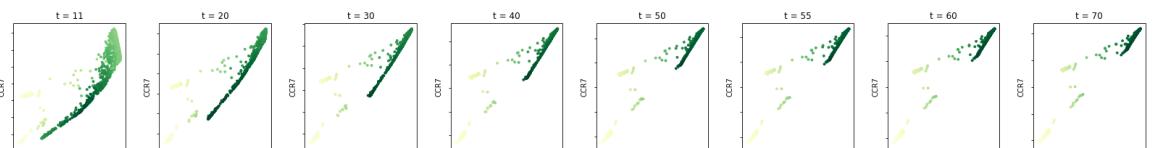
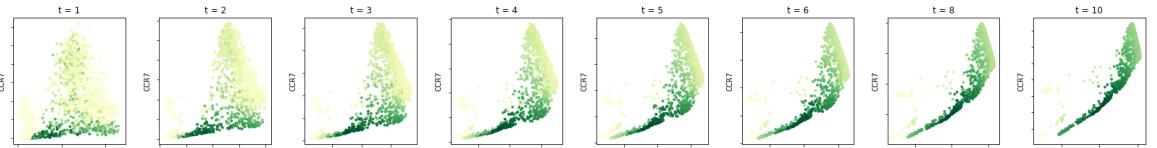
MAGIC imputation evaluation of t (diffusion time) with knn= 35 pca= 30



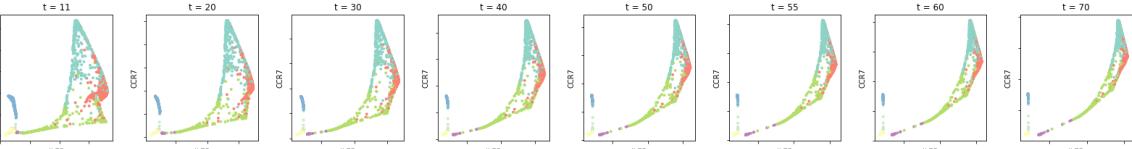
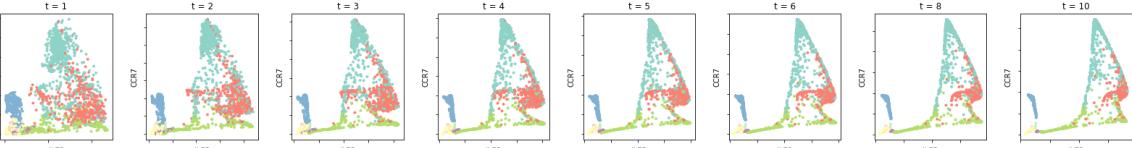
FOXP3



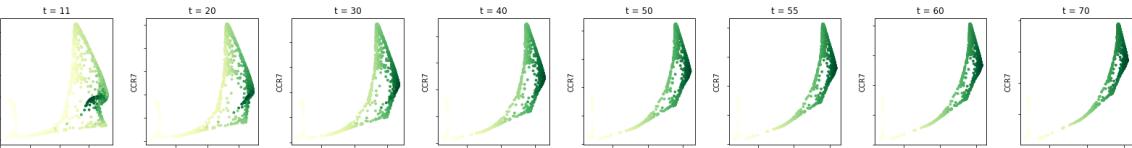
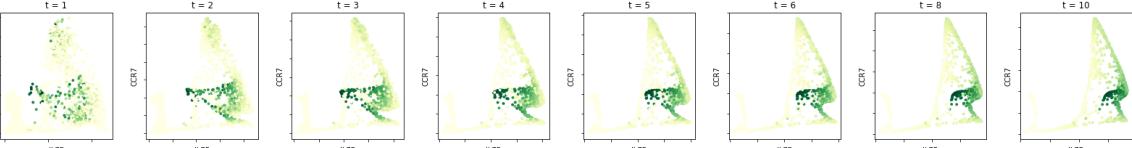
CD8A



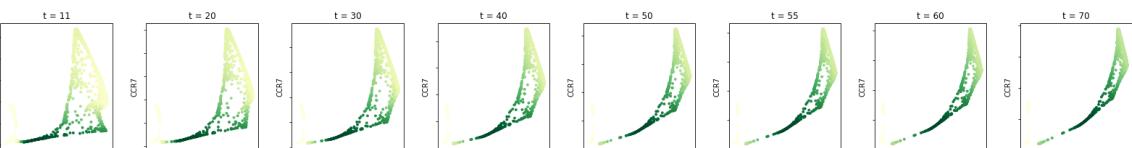
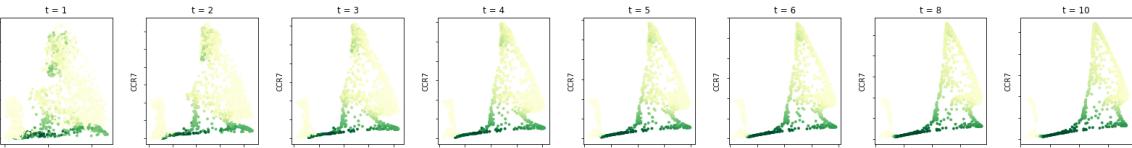
sc-PHENIX imputation evaluation of t (diffusion time) with knn= 35 pca= 30



FOXP3



CD8A

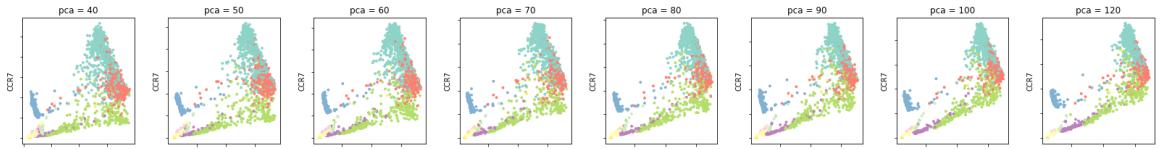
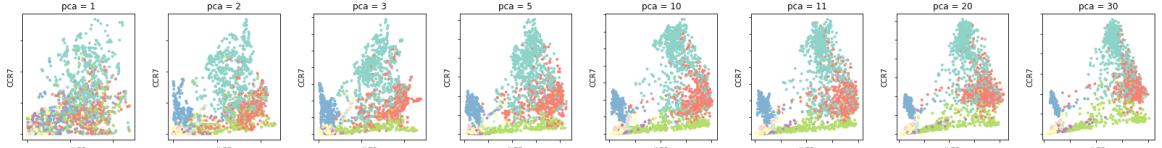


Gene expression

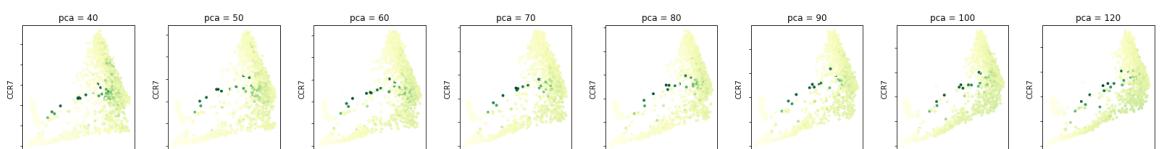
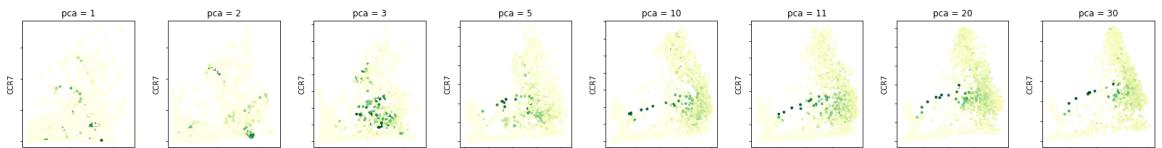


(E) Imputation evaluation of increasing values of t with knn=35 (more nearest neighbors) pca= 30 using MAGIC and sc-PHENIX(PCA-UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.

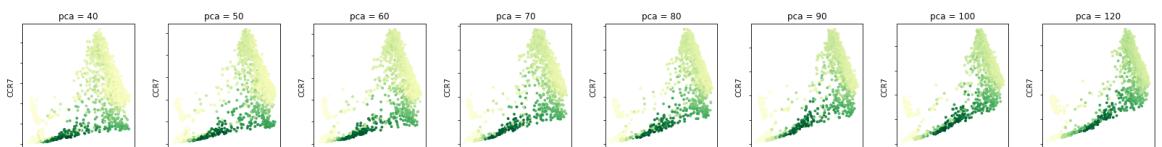
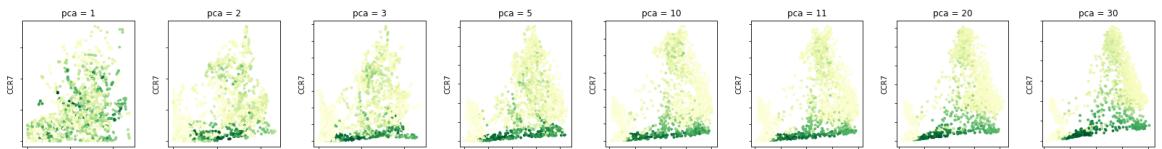
MAGIC imputation evaluation of pca
(principal component dimension) with knn= 5 t= 5



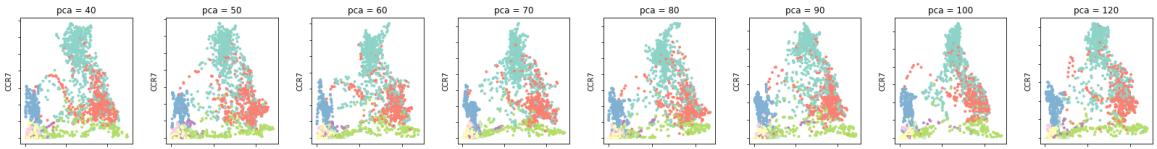
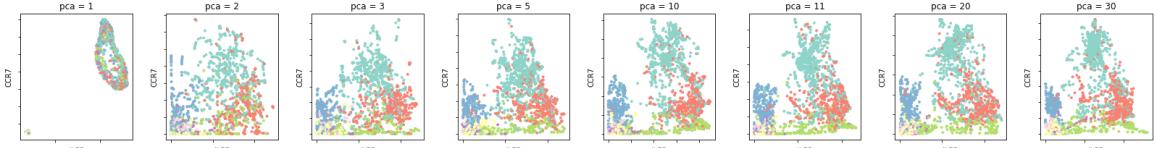
FOXP3



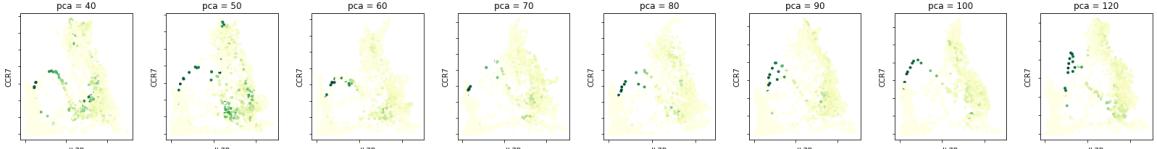
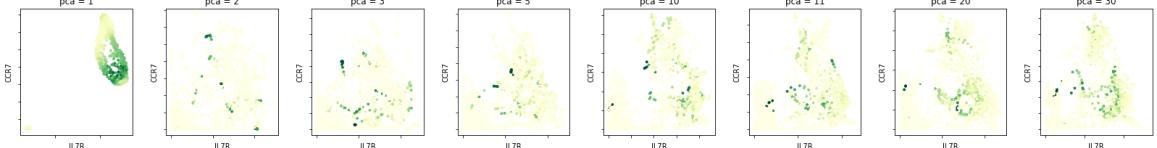
CD8A



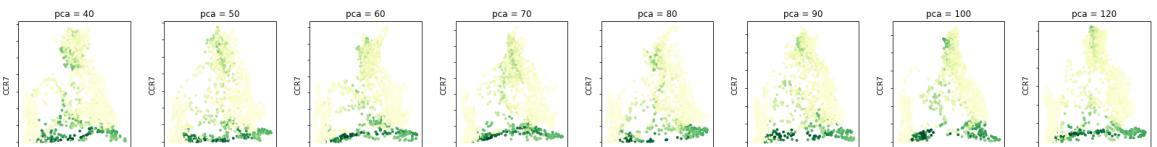
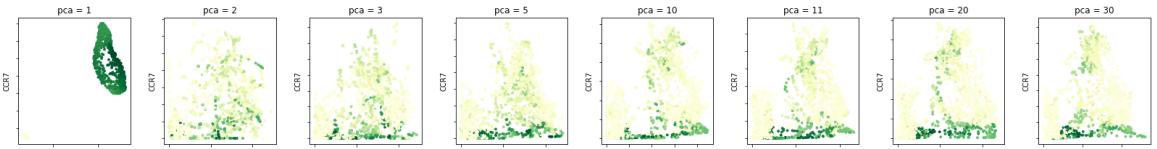
sc-PHENIX imputation evaluation of pca
(principal component dimension) with knn= 5 t= 5



FOXP3



CD8A

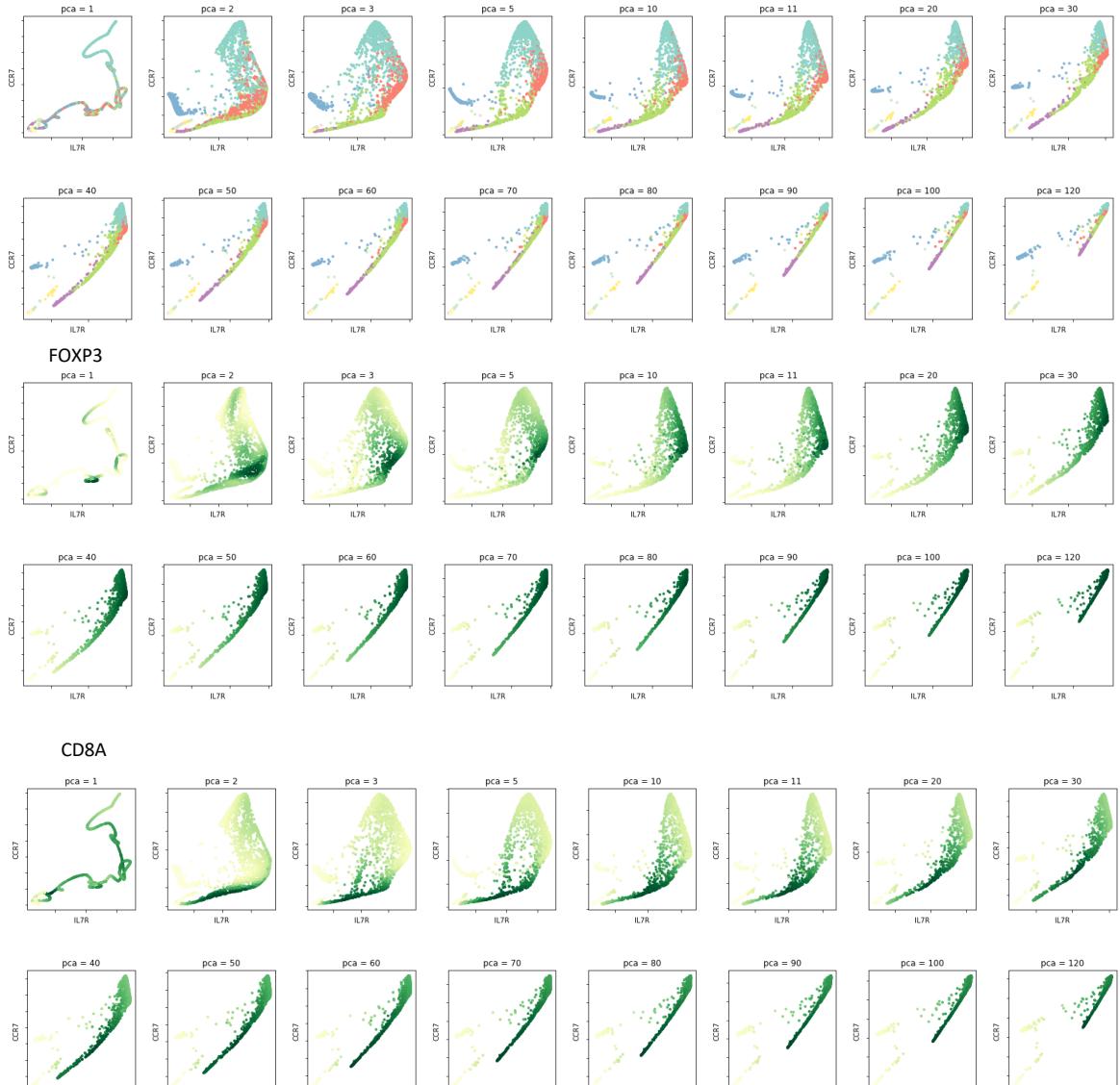


(F) Imputation evaluation of increasing values of principal components with knn=5 and t=5(less nearest neighbors and random walks) using MAGIC and sc-PHENIX(PCA-UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.

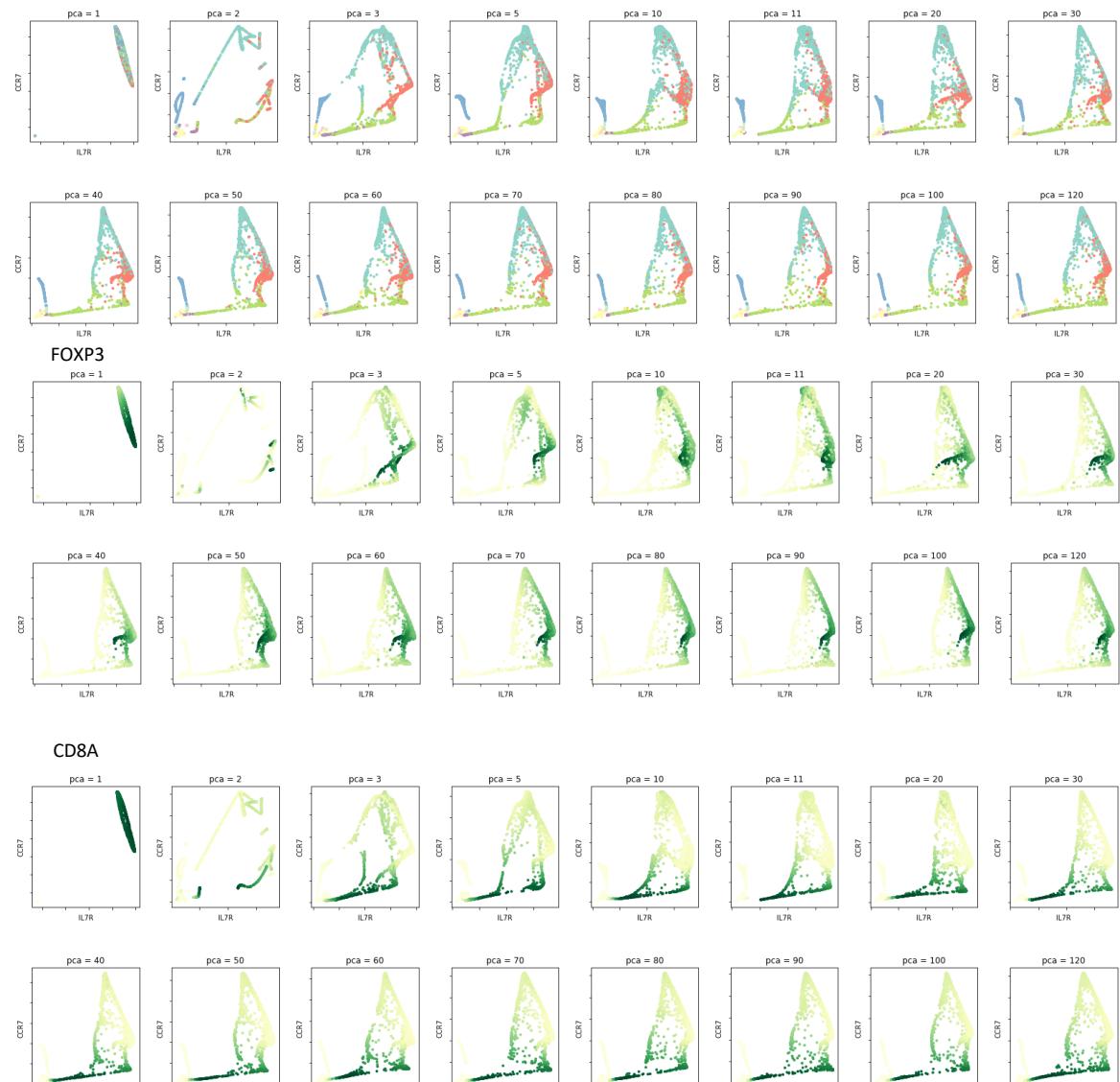
Gene expression



MAGIC imputation evaluation of pca
(principal component dimension) with knn= 35 t= 10



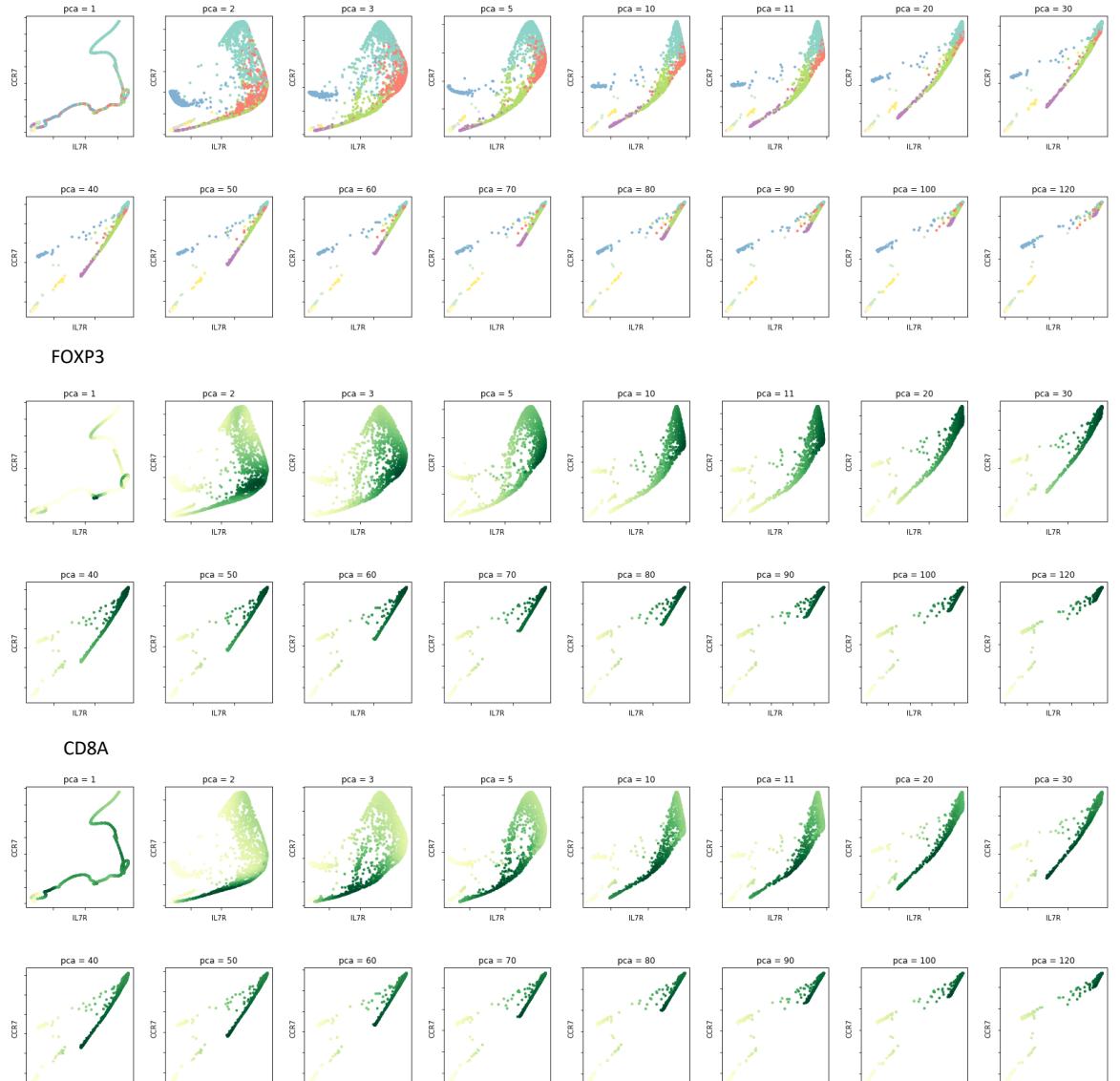
sc-PHENIX imputation evaluation of pca
(principal component dimension) with knn= 35 t=10



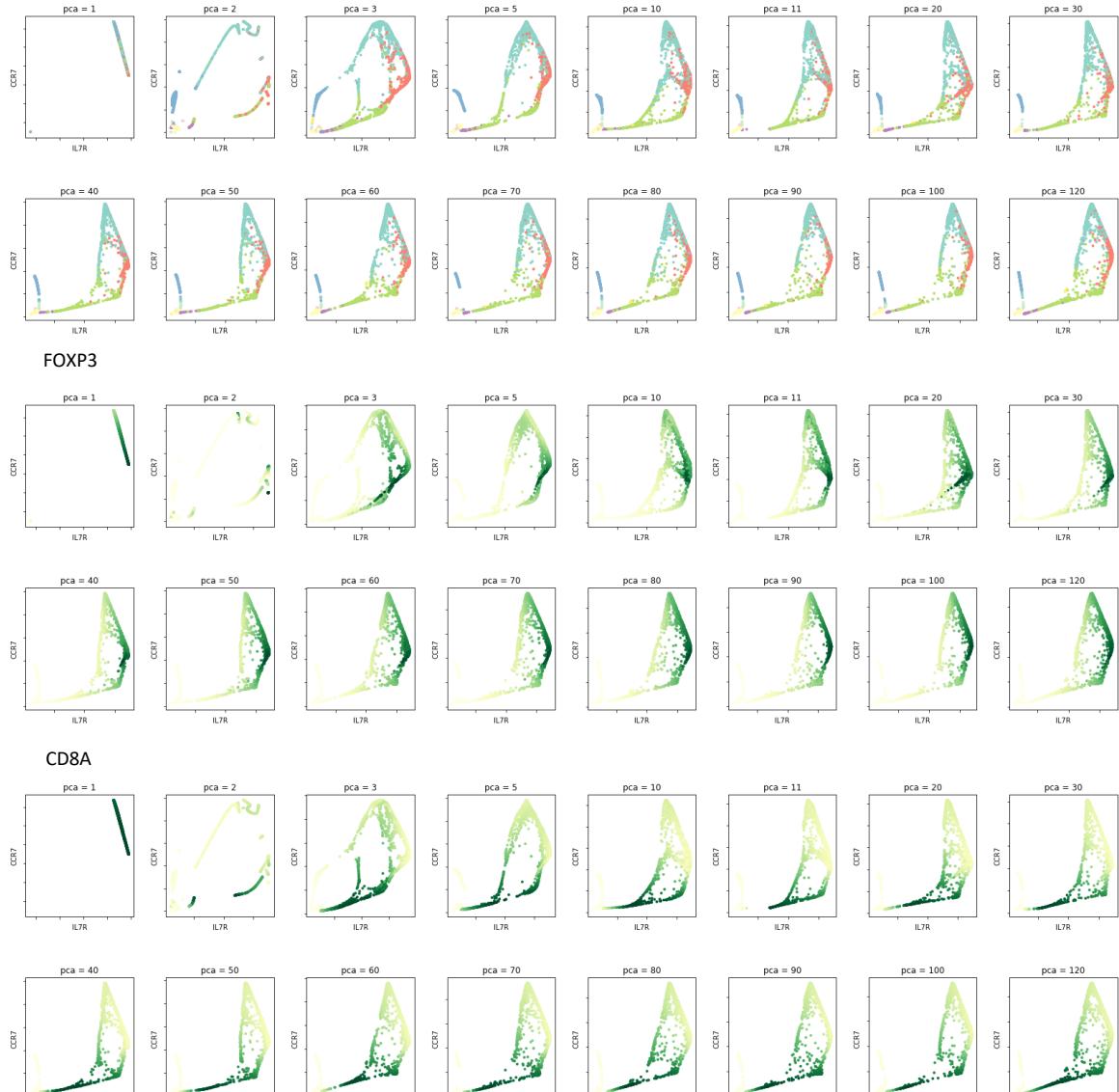
(G) Imputation evaluation of increasing values of principal components with knn=35 and t=10(more nearest neighbors and random walks) using MAGIC and sc-PHENIX(PCA-UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.



MAGIC imputation evaluation of pca
(principal component dimension) with knn= 35 t= 20



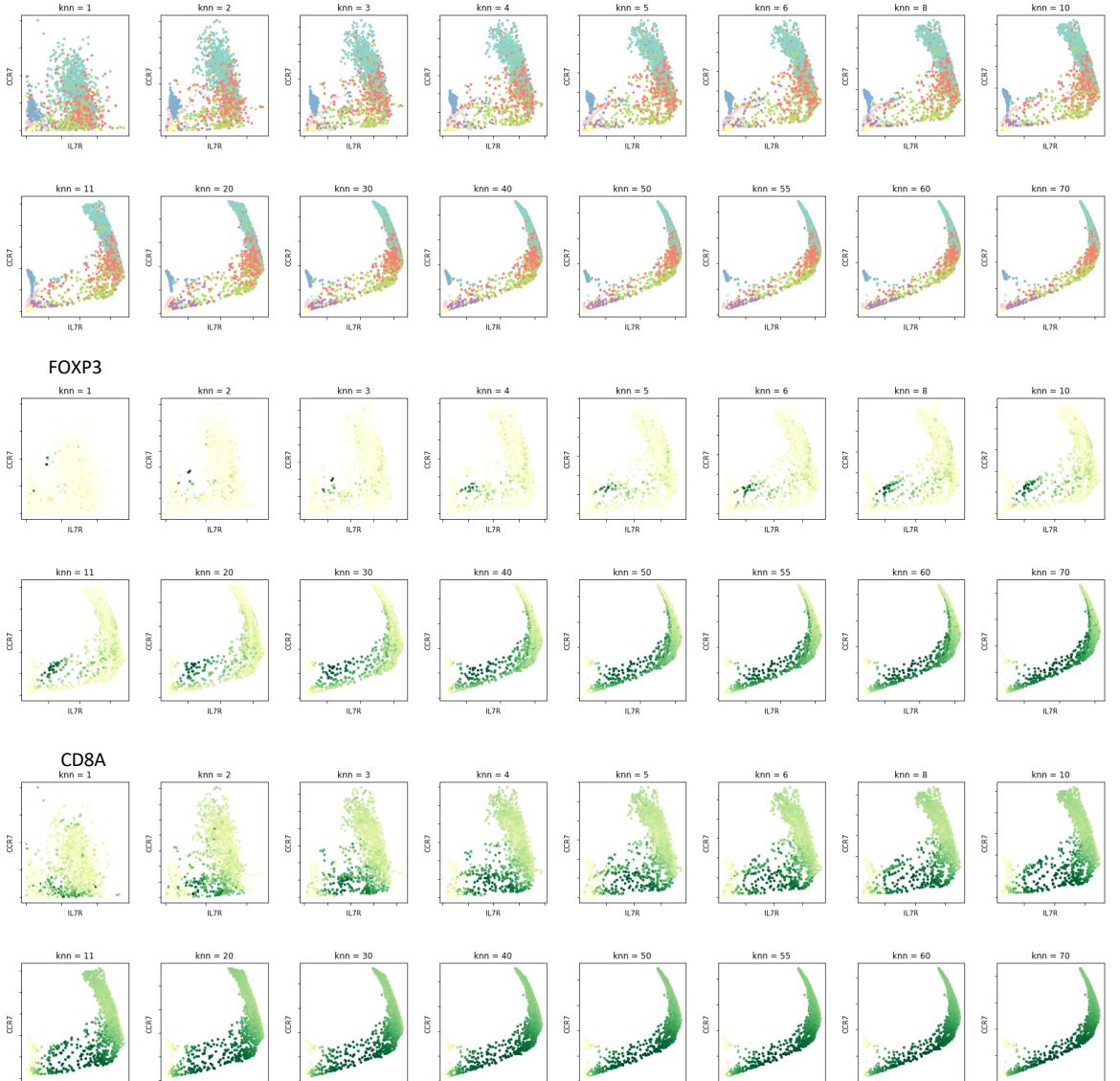
sc-PHENIX imputation evaluation of pca
(principal component dimension) with knn= 35 t=20



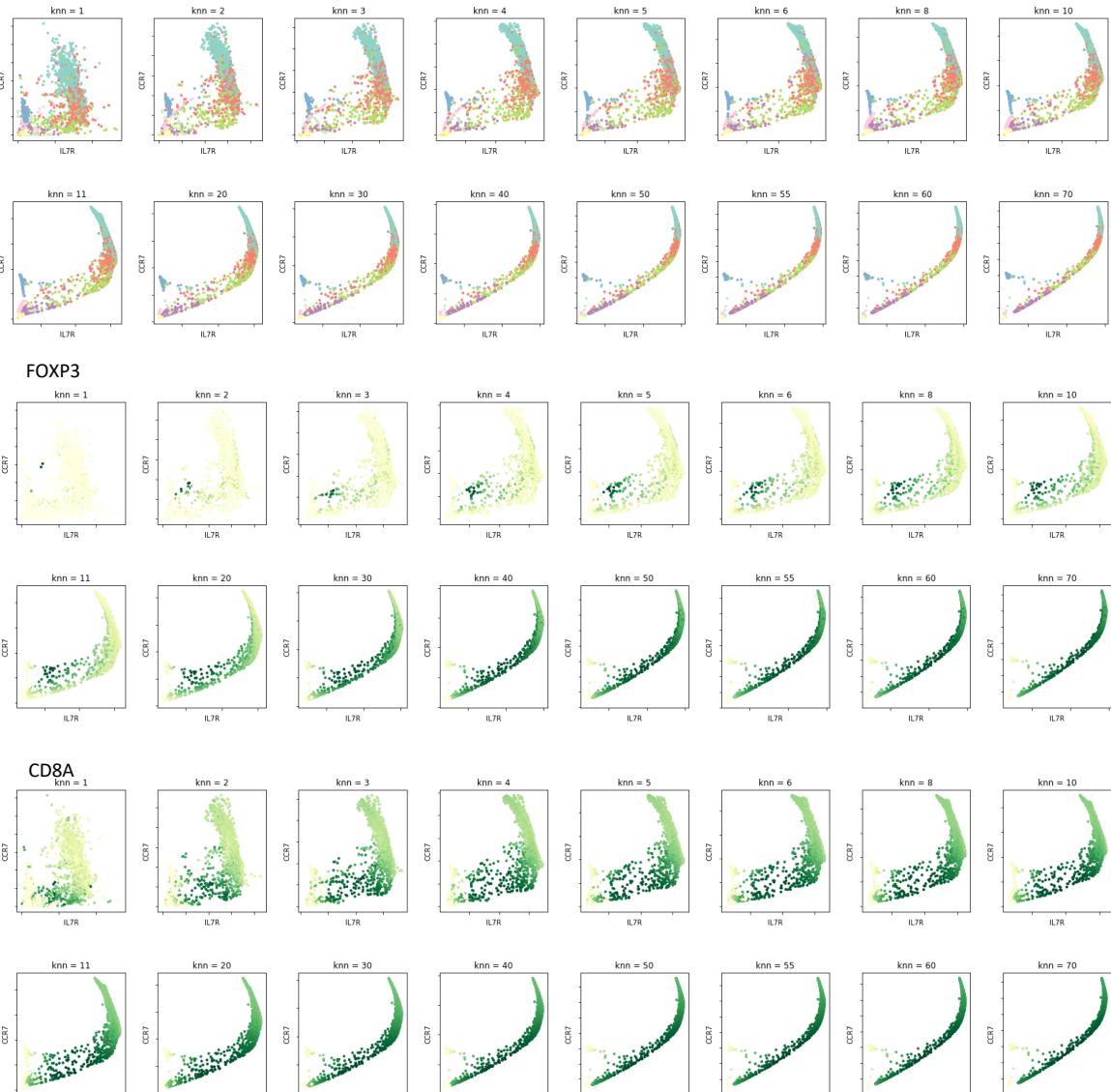
(H) Imputation evaluation of increasing values of principal components with knn=35 and t=20 (more nearest neighbors and much more random walks) using MAGIC and sc-PHENIX(PCA-UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.



sc-PHENIX imputation evaluation of knn, without pca (k nearest-neighbors)with t= 5



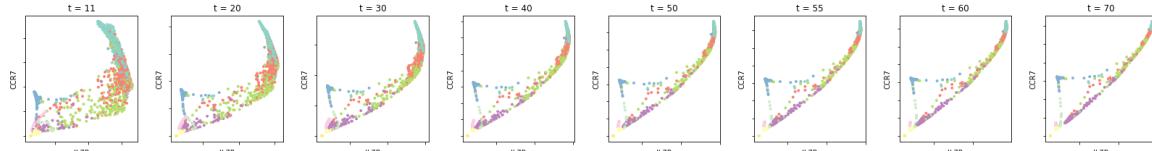
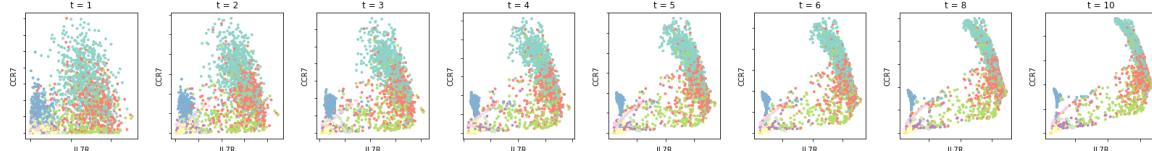
sc-PHENIX imputation evaluation of knn, without pca (k nearest-neighbors) with t= 10



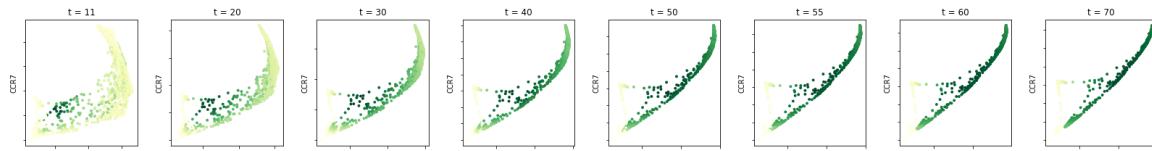
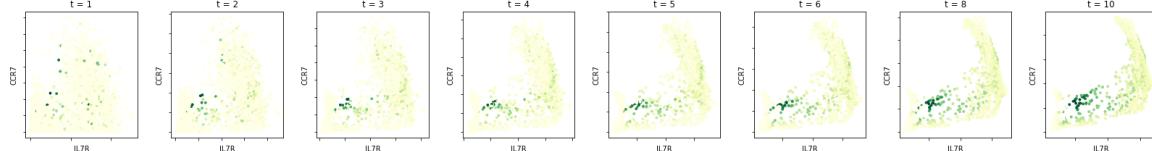
(I) Imputation evaluation of increasing values of knn with t=5 and t=10 (right and left respectively) using sc-PHENIX (only UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.



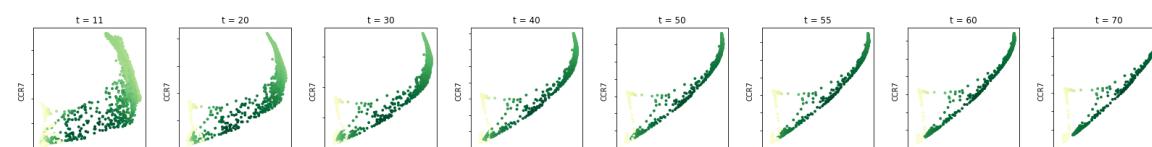
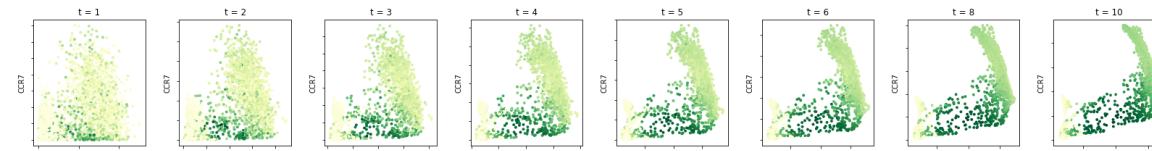
sc-PHENIX imputation evaluation of t (diffusion time), without pca with knn= 5



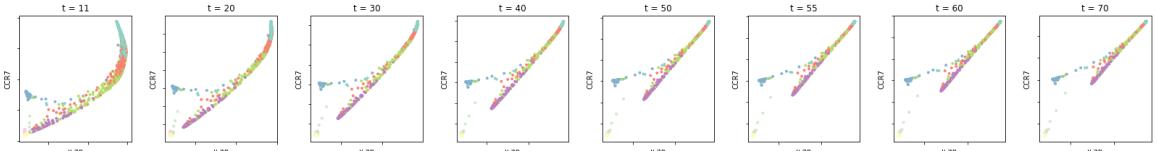
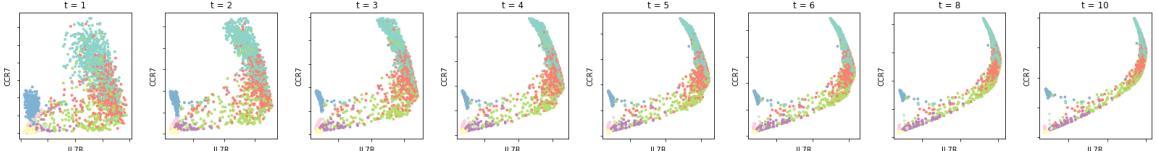
FOXP3



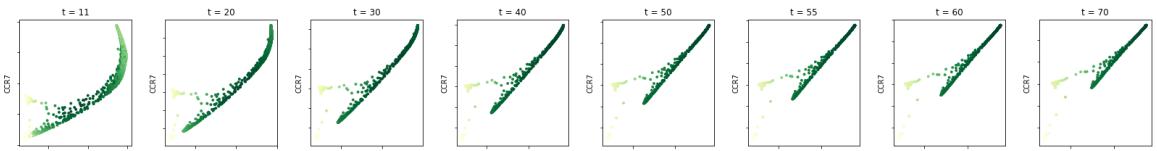
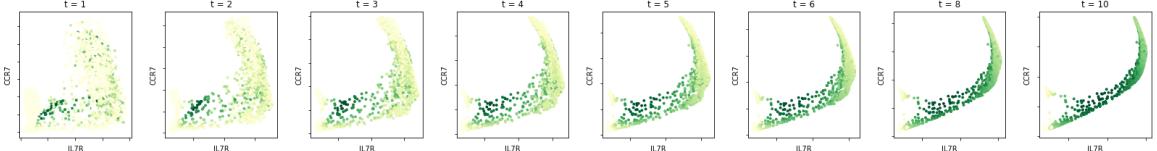
CD8A



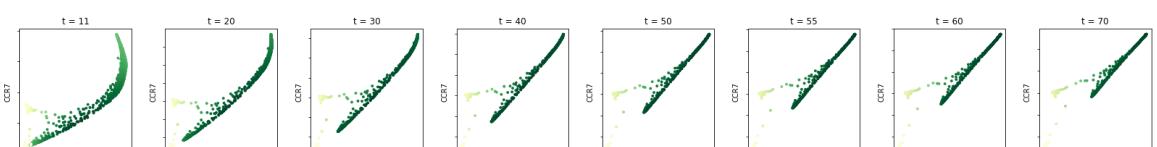
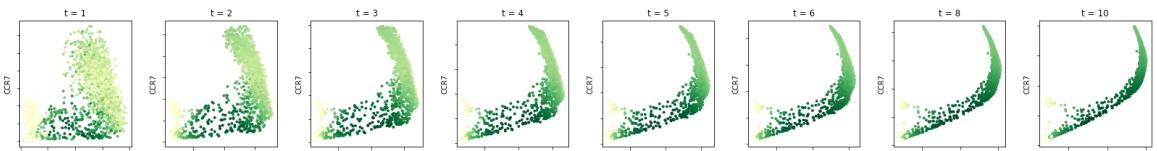
sc-PHENIX imputation evaluation of t (diffusion time) , without pca with knn= 35



FOXP3



CD8A



(I) Imputation evaluation of increasing values of t with knn=5 and knn=35 (right and left respectively) using sc-PHENIX (only UMAP space). Here, the CCR7-IL7R interaction visualizing the PBMC clusters, recovered gene expression of FOXP3 and CD8A.

