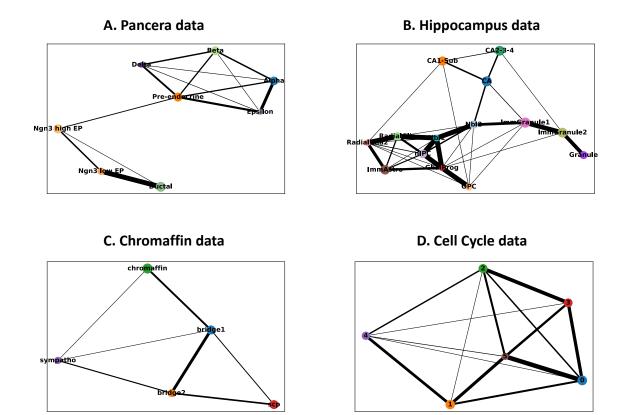
VeTra: a tool for trajectory inference based on RNA velocity

Guangzheng¹, Junil Kim^{2,3*}, and Kyoung Jae Won^{2,3*}

¹Department of Biology, The bioinformatics Centre, University of Copenhagen, 2200 Copenhagen N, Denmark, ²Biotech Research and Innovation Centre (BRIC), University of Copenhagen, 2200 Copenhagen N, Denmark, ³Novo Nordisk Foundation Center for Stem Cell Biology, DanStem, Faculty of Health and Medical Sciences, University of Copenhagen, Ole Maaløes Vej 5, 2200 Copenhagen N, Denmark, ⁴Department of Bioinformatics, School of Systems Biomedical Science, Soongsil University, 369 Sangdo-Ro, Dongjak-Gu, 06978 Seoul, South Korea

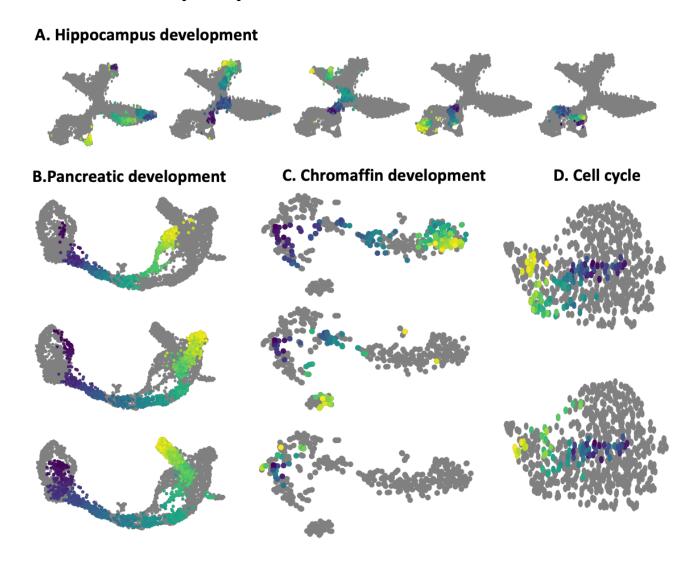
Supplementary Materials

* To whom correspondence should be addressed to KJW (Tel: +45-3533-1419; Email: kyoung.won@bric.ku.dk) and JK (junil.kim@bric.ku.dk).

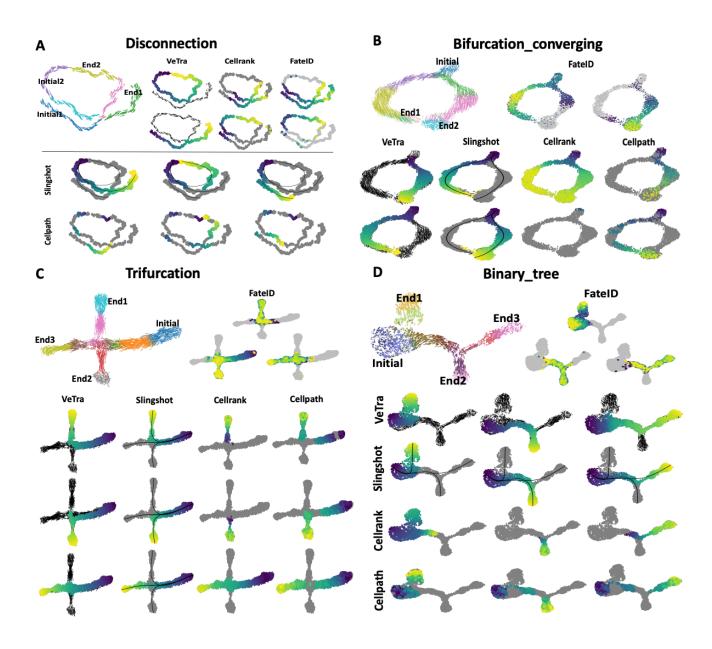


Supplementary Fig. 1. The TI results from PAGA for various scRNAseq datasets

Cellpath performance on real datasets

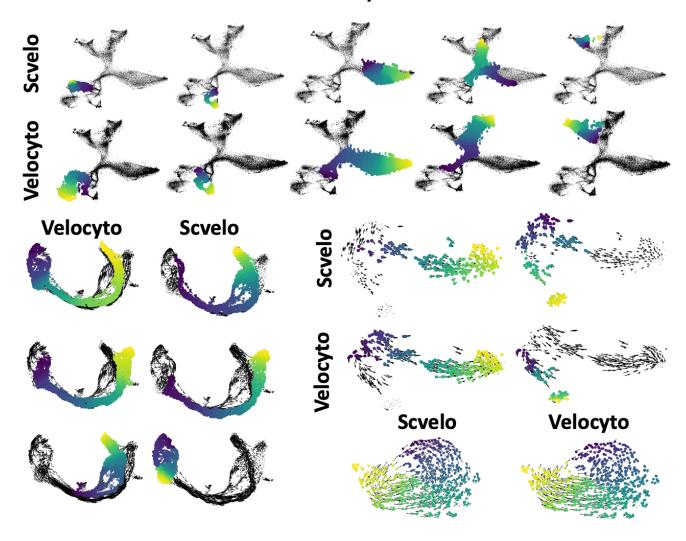


Supplementary Fig. 2. The TI results from CellPath for various scRNAseq datasets



Supplementary Fig. 3. Performance of all TI tools on the 4 types of simulated datasets

VeTra tested on Velocyto and Scvelo



Supplementary Fig. 4. VeTra's outputs tested on Velocyto and Scvelo

Supplementary Table 1. Performance assessment using the simulated datasets. The score is (1 - D) * 100, where *D* is the average value of hamming distances between predicted lineages and the known lineages normalized to the total number of cells.

rifurcation	Converging	Binary Tree	Disconnection	Overall
91	88	91	99	92
95	95	95	78	91
72	77	76	67	73
71	52	69	63	64
78	56	64	67	66
	91 95 72 71	91 88 95 95 72 77 71 52	91 88 91 95 95 95 72 77 76 71 52 69	91 88 91 99 95 95 95 78 72 77 76 67 71 52 69 63