a) Method
b) Accuracy
Per metric
Per dataset source
Per trajectory type
c) Scalability
Predicted time (#cells × #features)
d) Stability
Similarity between runs
e) Usability
Quality of software and paper
Ordering
Topology
Features
Clustering
Gold
Silver
Dyngen
Dyntoy
PROSSTT
Splatter
Cycle
Linear
Bifurcation
Convergence
Multifurcation
Tree
Acyclic
Connected
Disconnected
1m × 100
100k × 1k
10k × 10k
1k × 100k
100 × 1m
Cor. pred. vs. real
Ordering
Topology
Features
Clustering
Availability
Behaviour
Code assurance
Code quality
Documentation
Paper
Graph methods
PAGA 1h 7m 55s 19s 25s 0.82
RaceID / StemID >7d 1d 1h 1h 14h 0.77
SLICER >7d >7d 2h 31s <1s 0.99
Tree methods
Slingshot >7d 11h 56m 2m 52s 0.98
PAGA Tree 2h 8m 1m 20s 15s 0.88
MST 56m 8m 12m 2m 52s 0.90 Off-the-shelf
pCreode >7d 1d 2h 3m 58s 0.89
SCUBA >7d 3d 4h 10m 3m 0.86
Monocle DDRTree 1h 26m 2h 14h 2d 0.86
Monocle ICA >7d 2d 1h 1h 1d 0.95
cellTree maptpx >7d >7d 6h 1h 24m 0.51
SLICE >7d >7d 1h 51m 1d 0.78
cellTree VEM >7d 23h 39m 10m 15m 0.78
ElPiGraph 12h 1d 6h 20m 7m 0.93
Sincell >7d >7d 2h 5m 2m 0.97
URD >7d 1d 2h 10m 1m 0.68
CellTrails >7d >7d 2d 7h 4h 0.76
Mpath >7d >7d 8h 4h 1d 0.90
CellRouter >7d 1d 1h 9m 9m 0.24
Multifurcation methods
STEMNET 1h 36m 12m 7m 6m 0.64
FateID 1d 6h 1h 26m 20m 0.71
MFA 5h 9h 9h 9h 7h 0.86
GPfates >7d >7d 4d 2h 13m 0.75
Bifurcation methods
DPT 24m 36m 40m 7m 56s 0.76
Wishbone 1d 2h 17m 6m 7m 0.66
Linear methods
SCORPIUS 13h 1h 4m 4m 4m 0.96
Component 1 34s 2m 11m 3m 51s 0.92 Off-the-shelf
Embeddr >7d 2d 33m 2m 34s 0.93
MATCHER 2h 3h 1h 16m 3m 0.91
TSCAN 24m 7m 9m 7m 11m 0.96
Wanderlust 1d 2h 16m 5m 7m 0.73
PhenoPath 1h 5h 9h 4d >7d 0.83
topslam >7d >7d 1d 4h 8h 0.99
Waterfall 47m 8m 13m 2m 51s 0.89
ElPiGraph linear 2h 2h 1h 8m 5m 0.92
ouijaflow >7d >7d 20h >7d 3d 0.80
FORKS 4m 5m 25m 5m 2m 0.04
Cyclic methods
Angle 35s 2m 10m 3m 54s 0.96 Off-the-shelf
ElPiGraph cycle 2h 2h 1h 8m 5m 0.92
reCAT 13h 1d 9h 1d >7d 0.92
Score
0 0.2 0.4 0.6 0.8 1
Not shown, insufficient data points
CALISTA
cellTree Gibbs
GrandPrix
MERLoT
ouija
pseudogp
SCIMITAR
SCOUP