

																type	
	0.987	0.975	0.984	0.760	0.993	0.955	0.974	0.812	0.078	0.684	0.887	0.004	0.073	0.641	0.867	0.003	MIDAS
	0.982	0.940	0.979	0.776	0.971	0.924	0.963	0.750	0.108	0.640	0.885	0.003	0.160	0.548	0.812	0.002	StabMap
	0.990	0.948	0.978	0.814	0.977	0.900	0.954	0.694	0.080	0.653	0.872	0.002	0.131	0.560	0.801	0.002	Seurat v5 bridge
	1.000	0.788	0.884	0.828	0.967	0.885	0.894	0.880	0.189	0.330	0.533	0.000	0.170	0.327	0.500	0.001	Multigrade
	0.892	0.841	0.828	0.378	0.993	1.000	1.000	0.733	0.386	0.176	0.309	0.000	0.258	0.477	0.702	0.001	scMoMaT
	0.941	0.799	0.861	0.728	0.886	0.688	0.702	0.603	0.323	0.445	0.590	0.000	0.401	0.134	0.235	0.000	scVAEIT
Cell match (unpaired data downsample to 10%)	FOSCTTM (paired data downsample AUC)	Cell type match (paired data downsample AUC)	Cell type level 1 match (paired data downsample AUC)	Cell match (paired data downsample AUC)	FOSCTTM (unpaired data downsample AUC)	Cell type match (unpaired data downsample AUC)	Cell type level 1 match (unpaired data downsample AUC)	Cell match (unpaired data downsample AUC)	FOSCTTM (paired data downsample to 10%)	Cell type match (paired data downsample to 10%)	Cell type level 1 match (paired data downsample to 10%)	Cell match (paired data downsample to 10%)	FOSCTTM (unpaired data downsample to 10%)	Cell type match (unpaired data downsample to 10%)	Cell type level 1 match (unpaired data downsample to 10%)	Cell match (unpaired data downsample to 10%)	

1

0.8

0.6

0.4

0.2

Metric score (Pair down 10%)

Metric score (Unpair down 10%)

Pair down AUC score

Unpair down AUC score