

PDGrapher Baseline Models Comparison (A549, fold 0)

Model	R ² Top-20	R ² Top-40	R ² Top-80	Status
OUR IMPLEMENTATIONS				
PerGeneLinear	0.7636	0.7554	0.7447	EXCEEDS paper
ChemCPA	0.7056	0.6893	0.6680	~95% of paper
scGen	0.7002	0.6775	0.6582	~94% of paper
Biolord (tuned)	0.6769	0.6442	0.6062	~93% of paper
Biolord (default)	0.6164	0.5537	0.4844	~85% of paper
CellOT_PCA100	0.4603	0.4551	0.4501	Best CellOT
MeanShift	0.3116	0.3006	0.2976	Basic baseline
CellOT (no PCA)	0.0885	-	-	Matches paper
NoChange	0.0000	0.0000	0.0000	Baseline (DE=0)
PAPER RESULTS (A549)				
scGen (paper)	0.7402	0.7502	0.7547	
ChemCPA (paper)	0.7442	0.7577	0.7645	
Biolord (paper)	0.7248	0.7362	0.7432	
PDGrapher (paper)	0.7031	0.7124	0.7184	
Baseline (paper)	0.6603	0.6665	0.6745	
CellOT (paper)	0.0031	0.0035	0.0036	