

Rebuttal Table 1: **PLATO outperforms graph regularization baselines that also use the auxiliary knowledge graph.** For every dataset, the best overall model is in **bold** and the second best model is underlined.

Dataset		MNSCLC	CM	PDAC	BRCA	CRC	CH
Graph Reg.	GraphNet	0.169±0.030	0.277±0.099	0.249±0.018	0.350±0.069	0.125±0.061	<u>0.646±0.051</u>
	NC LASSO	0.210±0.014	<u>0.339±0.044</u>	<u>0.327±0.053</u>	<u>0.458±0.083</u>	<u>0.220±0.030</u>	0.415±0.083
	Network LASSO	<u>0.212±0.046</u>	0.243±0.058	0.136±0.027	0.348±0.033	0.171±0.040	0.212±0.091
Ours	PLATO	0.272±0.130	0.435±0.022	0.400±0.021	0.583±0.019	0.401±0.019	0.770±0.003
Improvement	PLATO vs best graph reg.	+28.30%	+28.32%	+22.32%	+27.29%	+82.27%	+19.20%

Rebuttal Table 2: **PLATO’s performance depends on the fraction of missing edges in the knowledge graph.**

Fraction of edges in KG	PearsonR
100%	0.583 ± 0.019
90%	0.570 ± 0.017
70%	0.537 ± 0.044
50%	0.412 ± 0.011