Table ?: Optimized hyperparameters. T denotes the number of training epochs. To prevent embedding collapse, we train II^0 for only 2 epochs.

Graph	Model	Ver.	η	λ	n_{negative}	T
CiteSeer	LINE	I	0.1	-	-	50
		II	0.1	0.01	1000	50
		II^0	0.1	0.01	10^9	2
	node2vec	I	0.1	-	-	50
		II	0.1	0.1	10	50
		II^0	0.1	0.1	10^9	2
Cora	LINE	I	0.1	-	-	50
		II	0.1	1	1000	50
		II^0	0.1	1	10^9	2
	node2vec	I	0.1	-	-	50
		II	0.1	0.1	10	50
		II^0	0.1	0.1	10^9	2
ogbl-citation2	LINE	I	0.01	-	-	2
		II	0.01	10^{-7}	1000	2
		II^0	0.01	10^{-7}	10^9	2
	node2vec	I	0.01	-	-	3
		II	0.01	10^{-6}	1000	3
		II^0	0.01	10^{-6}	10^9	2
ogbl-collab	LINE	I	0.1	-	-	10
		II	0.1	10^{-4}	1000	10
		II^0	0.1	0.01	10^9	2
	node2vec	I	0.1	-	-	10
		II	0.1	0.01	100	10
		II^0	0.1	0.01	10^9	2
ogbl-ppa	LINE	I	0.01	-	-	3
		II	0.01	10^{-6}	5	3
		II^0	0.01	10^{-4}	10^9	2
	node2vec	I	0.01	-	-	5
		II	0.01	0.001	5	5
		II^0	0.01	0.001	10^9	2
PubMed	LINE	I	0.1	-	-	50
		II	0.1	0.01	1000	50
		II^0	0.1	0.01	10^9	2
	node2vec	I	0.1	-	-	50
		II	0.1	0.1	1000	50
		II^0	0.1	0.1	10^9	2

Table ?: node2vec parameter values p and q

Dataset	p	q
CiteSeer	1	0.5
Cora	1	1
PubMed	0.25	0.5
ogbl-ppa	2	4
ogbl-collab	4	4
ogbl-citation2	0.25	2
ogbl-vessel	0.5	0.25