

**Table 1 Node classification performance (Macro-F1, Micro-F1), The best and 2nd best are noted in red and blue, respectively.**

	Citeseer		Pubmed		Reddit		Co_CS		Co_Phy	
	Micro-F1	Macro-F1	Micro-F1	Macro-F1	Micro-F1	Macro-F1	Micro-F1	Macro-F1	Micro-F1	Macro-F1
Random	70.96±1.61	64.39±1.69	77.55±2.10	76.78±2.03	92.35±1.34	92.17±1.31	90.27±1.42	77.35±5.21	90.76±2.03	82.82±4.86
AGE	72.21±0.97	67.72±1.14	80.13±1.56	79.23±1.64	92.66±0.70	92.58±0.70	92.87±0.62	91.62±1.03	92.82±1.00	88.11±1.69
ANRMA	70.74±1.41	64.83±2.20	77.14±2.35	75.88±2.50	91.10±0.88	91.02±0.86	92.55±0.89	89.92±3.15	90.79±1.65	82.95±4.02
ALG	70.63±1.34	65.73±1.41	79.09±1.24	78.29±2.47	91.92±1.50	90.18±2.09	90.92±1.31	91.30±1.51	89.57±3.89	87.18±2.73
Grain	70.50±1.09	65.74±1.13	78.33±1.38	75.67±2.05	92.39±0.72	92.25±0.76	90.45±0.99	83.38±2.24	92.17±1.19	84.88±2.43
GPA	72.16±0.65	67.19±0.98	80.13±0.84	78.89±0.85	92.81±0.65	92.70±0.66	92.93±0.25	81.74±1.01	91.99±0.43	86.18±0.75
ALLIE	72.74±0.75	67.19±1.04	79.2±0.85	78.29±0.88	92.73±0.71	92.62±0.73	93.28±0.21	83.42±0.87	89.87±0.34	71.72±0.47
GraphCBAL	72.50±0.84	67.51±1.14	81.76±0.65	80.46±0.86	93.64±0.59	93.51±0.64	94.32±0.37	93.69±0.44	94.59±0.23	90.47±0.41
GraphCBAL++	72.22±0.90	67.11±1.13	81.24±0.65	80.11±0.74	93.49±0.52	93.33±0.57	93.57±0.42	93.19±0.37	94.36±0.27	90.26±0.45

**Table 2 Imb-ratio and standard deviation of labeled nodes. The best and 2nd best are noted in red and blue, respectively.**

	Citeseer		Pubmed		Reddit		Co_CS		Co_Phy	
	Imb_ratio	Label_STD	Imb_ratio	Label_STD	Imb_ratio	Label_STD	Imb_ratio	Label_STD	Imb_ratio	Label_STD
Random	0.27±0.10	5.46	0.50±0.13	4.98	0.47±0.1	1.99	0.03±0.02	16.27	0.14±0.05	15.51
AGE	0.46±0.08	5.04	0.61±0.13	2.93	0.26±0.06	6.88	0.14±0.04	7.72	0.50±0.11	1.74
ANRMA	0.34±0.11	5.24	0.47±0.13	5.48	0.39±0.09	4.72	0.08±0.02	16.71	0.14±0.06	15.52
ALG	0.61±0.22	3.32	0.95±5.54	1.33	0.73±0.17	0.42	0.89±0.04	0.28	0.90±0.07	0.62
Grain	0.25±0.07	7.61	0.43±0.05	7.85	0.38±0.35	5.79	0.06±0.43	18.06	0.20±0.01	12.57
GPA	0.34±0.06	5.78	0.36±0.03	7.47	0.47±0.03	5.11	0.02±0.01	13.51	0.06±0.00	24.12
ALLIE	0.28±0.06	6.12	0.45±0.05	6.08	0.35±0.04	6.52	0.02±0.00	12.49	0.01±0.00	25.47
GraphCBAL	0.45±0.05	4.42	0.66±0.06	3.31	0.47±0.04	4.33	0.52±0.03	3.6	0.61±0.04	3.04
GraphCBAL++	0.57±0.10	2.96	0.82±0.05	1.72	0.66±0.06	2.22	0.69±0.04	2.08	0.81±0.03	1.53

**Table 3 The p-values between GraphCBAL and the comparing methods, including ALLIE and ALG.**

	ALLIE					ALG				
	Citeseer	Pubmed	Reddit	Co-CS	Co-Phy	Citeseer	Pubmed	Reddit	Co-CS	Co-Phy
Micro-F1	1.50E-03	2.36E-30	2.36E-08	5.22E-36	1.81E-91	2.33E-11	3.52E-24	1.93E-11	3.10E-33	2.02E-14
Macro-F1	5.21E-01	1.33E-21	3.90E-07	1.53E-88	3.46E-132	2.73E-09	3.17E-15	2.27E-18	9.06E-19	2.50E-13
Imb_ratio	5.58E-30	3.54E-34	9.51E-04	3.22E-102	1.16E-100	9.13E-06	1.08E-43	8.22E-16	5.29E-74	1.96E-42