

Notes: ‘n’ represents the dimension of the corresponding problem. ‘Itr’ represents the total number of iterations. ‘NF’ represents the number of the function evaluation. ‘Time’ represents the running time of the algorithm. ‘||g\*||’ represents the gradient value for the solution.

Table 1: Numerical results for Group A

Problem(n)	Case	irhCGP-I-1	irhCGP-I-2	irhCGP-I-3	irhCGP-I-4
		Itr/NF/Time/  g*	Itr/NF/Time/  g*	Itr/NF/Time/  g*	Itr/NF/Time/  g*
Problem 1(10000)	I	7/31/0.025/6.98e-07	10/43/0.016/3.70e-07	10/43/0.013/4.03e-07	10/43/0.013/3.99e-07
Problem 1(10000)	II	8/35/0.009/2.18e-07	10/43/0.012/1.03e-07	10/43/0.011/1.10e-07	10/43/0.011/1.08e-07
Problem 1(10000)	III	8/35/0.011/3.42e-07	10/43/0.012/3.27e-07	10/43/0.011/3.69e-07	10/43/0.012/3.63e-07
Problem 1(10000)	IV	8/37/0.011/5.74e-07	11/49/0.013/2.34e-07	11/49/0.013/2.51e-07	11/49/0.013/2.53e-07
Problem 1(10000)	V	7/31/0.008/5.57e-07	10/43/0.011/3.13e-07	10/43/0.011/3.44e-07	10/43/0.011/3.34e-07
Problem 1(50000)	I	8/35/0.044/7.91e-07	10/43/0.054/7.80e-07	10/43/0.054/8.29e-07	10/43/0.054/8.22e-07
Problem 1(50000)	II	8/35/0.046/4.28e-07	10/43/0.053/1.73e-07	10/43/0.053/1.84e-07	10/43/0.054/1.80e-07
Problem 1(50000)	III	9/39/0.048/1.11e-07	10/43/0.055/6.42e-07	10/43/0.054/7.24e-07	10/43/0.055/7.13e-07
Problem 1(50000)	IV	10/45/0.059/9.20e-08	11/49/0.063/4.84e-07	11/49/0.064/5.14e-07	11/49/0.064/5.21e-07
Problem 1(50000)	V	8/35/0.061/2.65e-07	10/43/0.077/6.65e-07	10/43/0.075/7.13e-07	10/43/0.079/6.93e-07
Problem 1(100000)	I	9/39/0.203/1.44e-07	11/47/0.360/2.15e-07	11/47/0.298/2.38e-07	11/47/0.347/2.35e-07
Problem 1(100000)	II	8/35/0.228/2.76e-07	10/43/0.308/2.07e-07	10/43/0.301/2.24e-07	10/43/0.319/2.20e-07
Problem 1(100000)	III	9/39/0.294/1.40e-07	10/43/0.327/8.09e-07	10/43/0.326/9.08e-07	10/43/0.325/8.95e-07
Problem 1(100000)	IV	10/45/0.349/1.51e-07	11/49/0.380/6.67e-07	11/49/0.385/7.07e-07	11/49/0.379/7.17e-07
Problem 1(100000)	V	8/35/0.258/7.50e-07	10/43/0.321/9.02e-07	10/43/0.327/9.59e-07	10/43/0.332/9.32e-07
Problem 2(10000)	I	14/58/0.035/7.14e-07	15/62/0.029/1.31e-07	15/62/0.035/1.51e-07	15/62/0.030/6.81e-07
Problem 2(10000)	II	14/59/0.024/9.62e-07	14/59/0.025/4.50e-07	14/59/0.025/2.66e-07	15/63/0.025/3.06e-07
Problem 2(10000)	III	14/59/0.024/1.32e-07	15/63/0.025/2.56e-07	15/63/0.026/2.62e-07	14/59/0.024/5.67e-07
Problem 2(10000)	IV	14/61/0.025/9.61e-07	14/61/0.025/6.81e-07	14/61/0.025/5.90e-07	15/65/0.025/1.03e-07
Problem 2(10000)	V	14/58/0.025/4.04e-07	16/66/0.030/2.41e-07	16/66/0.033/2.70e-07	16/66/0.033/3.50e-07
Problem 2(50000)	I	16/66/0.155/1.70e-07	17/70/0.246/2.51e-07	17/70/0.291/2.55e-07	16/66/0.262/8.12e-07
Problem 2(50000)	II	15/63/0.217/6.52e-07	17/71/0.297/2.00e-07	17/71/0.262/2.23e-07	17/71/0.214/1.78e-07
Problem 2(50000)	III	15/63/0.220/5.12e-07	16/67/0.302/4.17e-07	16/67/0.314/4.43e-07	17/71/0.300/1.88e-07
Problem 2(50000)	IV	15/65/0.252/6.54e-07	17/73/0.246/1.85e-07	17/73/0.167/2.04e-07	17/73/0.157/2.36e-07
Problem 2(50000)	V	17/70/0.167/2.52e-07	17/70/0.243/1.83e-07	16/66/0.234/9.80e-07	17/70/0.307/6.64e-07
Problem 2(100000)	I	16/66/0.521/4.67e-07	17/70/0.606/6.68e-07	17/70/0.587/7.23e-07	18/74/0.534/2.38e-07
Problem 2(100000)	II	16/67/0.454/5.41e-07	17/71/0.596/3.28e-07	17/71/0.597/3.49e-07	18/75/0.533/1.86e-07
Problem 2(100000)	III	16/67/0.535/9.62e-07	16/67/0.558/3.50e-07	16/67/0.488/2.11e-07	17/71/0.550/3.97e-07
Problem 2(100000)	IV	16/69/0.540/5.41e-07	17/73/0.581/2.88e-07	17/73/0.596/3.07e-07	17/73/0.597/7.74e-07
Problem 2(100000)	V	17/70/0.585/5.73e-07	18/74/0.737/2.69e-07	18/74/0.597/2.66e-07	18/74/0.590/4.87e-07
Problem 3(10000)	I	8/34/0.030/6.29e-07	9/38/0.012/3.35e-07	9/38/0.011/3.54e-07	9/38/0.009/3.13e-07
Problem 3(10000)	II	9/38/0.008/3.22e-07	10/42/0.009/4.17e-07	10/42/0.009/4.29e-07	10/42/0.010/4.92e-07
Problem 3(10000)	III	10/42/0.010/2.86e-07	11/46/0.010/3.61e-07	11/46/0.010/3.96e-07	11/46/0.010/3.40e-07
Problem 3(10000)	IV	11/46/0.013/1.82e-07	12/50/0.014/2.80e-07	12/50/0.014/3.09e-07	12/50/0.014/2.98e-07
Problem 3(10000)	V	9/38/0.011/6.76e-08	9/38/0.012/6.98e-07	9/38/0.012/7.50e-07	9/38/0.012/5.42e-07
Problem 3(50000)	I	9/38/0.052/4.00e-07	9/38/0.054/6.21e-07	9/38/0.054/6.56e-07	9/38/0.053/5.98e-07
Problem 3(50000)	II	10/42/0.056/5.83e-08	10/42/0.058/4.94e-07	10/42/0.065/5.21e-07	10/42/0.059/6.05e-07
Problem 3(50000)	III	10/42/0.056/1.71e-07	11/46/0.061/4.93e-07	11/46/0.062/5.58e-07	11/46/0.062/4.42e-07
Problem 3(50000)	IV	11/46/0.060/1.05e-07	12/50/0.067/4.17e-07	12/50/0.066/4.61e-07	12/50/0.066/4.23e-07
Problem 3(50000)	V	9/38/0.051/2.21e-07	9/38/0.053/8.88e-07	9/38/0.052/9.71e-07	9/38/0.053/4.19e-07
Problem 3(100000)	I	9/38/0.109/4.06e-07	9/38/0.216/5.87e-07	9/38/0.241/6.17e-07	9/38/0.240/5.64e-07
Problem 3(100000)	II	10/42/0.356/6.82e-08	10/42/0.272/4.87e-07	10/42/0.253/5.38e-07	10/42/0.253/7.36e-07
Problem 3(100000)	III	9/38/0.229/7.18e-07	11/46/0.272/5.80e-07	11/46/0.277/6.39e-07	11/46/0.275/5.09e-07
Problem 3(100000)	IV	10/42/0.242/8.51e-07	12/50/0.290/5.00e-07	12/50/0.287/5.52e-07	12/50/0.302/5.03e-07
Problem 3(100000)	V	9/38/0.226/4.03e-07	10/42/0.216/2.24e-07	10/42/0.229/2.43e-07	9/38/0.227/1.30e-07
Problem 4(10000)	I	17/78/0.062/7.59e-07	17/78/0.035/6.20e-07	17/78/0.034/6.19e-07	17/78/0.035/4.65e-07
Problem 4(10000)	II	16/74/0.032/5.53e-07	16/74/0.033/4.12e-07	16/74/0.033/4.16e-07	15/69/0.033/9.50e-07
Problem 4(10000)	III	16/74/0.033/6.30e-07	16/74/0.033/5.18e-07	16/74/0.033/5.17e-07	16/73/0.034/5.64e-07
Problem 4(10000)	IV	16/73/0.033/6.24e-07	16/73/0.033/5.88e-07	16/73/0.033/5.86e-07	16/72/0.032/7.75e-07
Problem 4(10000)	V	17/77/0.034/5.47e-07	17/78/0.035/5.14e-07	17/78/0.035/5.14e-07	17/77/0.035/4.74e-07
Problem 4(50000)	I	18/82/0.194/4.64e-07	18/83/0.220/6.23e-07	18/83/0.372/6.26e-07	18/82/0.406/5.00e-07
Problem 4(50000)	II	16/73/0.369/5.08e-07	15/69/0.354/8.51e-07	15/69/0.322/8.58e-07	15/69/0.265/9.27e-07
Problem 4(50000)	III	17/78/0.410/7.57e-07	17/78/0.402/4.06e-07	17/78/0.368/4.07e-07	17/78/0.278/6.50e-07
Problem 4(50000)	IV	16/72/0.267/8.15e-07	16/72/0.386/7.10e-07	16/72/0.414/7.07e-07	16/72/0.364/7.44e-07
Problem 4(50000)	V	18/82/0.307/4.48e-07	18/83/0.379/6.07e-07	18/83/0.479/6.10e-07	18/82/0.380/4.48e-07
Problem 4(100000)	I	18/82/0.727/8.69e-07	18/83/0.754/6.19e-07	18/83/0.910/6.21e-07	18/83/0.735/7.24e-07
Problem 4(100000)	II	16/73/0.550/4.61e-07	15/69/0.628/8.43e-07	15/69/0.492/8.50e-07	16/73/0.474/4.10e-07
Problem 4(100000)	III	16/73/0.579/8.71e-07	17/78/0.598/4.00e-07	17/78/0.627/4.01e-07	17/78/0.682/6.19e-07
Problem 4(100000)	IV	16/72/0.558/7.79e-07	16/73/0.587/6.21e-07	16/73/0.598/6.19e-07	16/72/0.624/8.16e-07
Problem 4(100000)	V	18/82/0.584/8.43e-07	18/83/0.652/6.99e-07	18/83/0.728/6.99e-07	18/82/0.534/8.16e-07
Problem 5(10000)	I	11/53/0.024/7.81e-07	11/55/0.018/5.12e-07	11/55/0.017/3.64e-07	11/55/0.016/2.73e-07
Problem 5(10000)	II	12/59/0.018/1.37e-07	12/61/0.018/2.53e-07	12/61/0.018/2.57e-07	12/61/0.019/2.24e-07
Problem 5(10000)	III	10/50/0.016/6.69e-07	12/61/0.018/2.54e-07	12/61/0.019/2.51e-07	12/61/0.019/1.63e-07
Problem 5(10000)	IV	11/55/0.017/4.91e-07	11/55/0.018/7.92e-07	11/55/0.018/7.94e-07	11/55/0.017/5.56e-07
Problem 5(10000)	V	12/60/0.019/1.46e-07	12/61/0.019/3.39e-07	12/61/0.019/3.50e-07	12/61/0.019/2.58e-07
Problem 5(50000)	I	11/54/0.081/3.58e-07	11/55/0.096/9.24e-07	11/55/0.096/9.95e-07	12/59/0.101/5.06e-07
Problem 5(50000)	II	11/56/0.096/9.53e-07	13/65/0.101/6.68e-07	13/65/0.102/6.57e-07	12/61/0.097/9.82e-07
Problem 5(50000)	III	12/60/0.091/1.86e-07	12/61/0.098/7.08e-07	12/61/0.097/7.35e-07	12/61/0.097/7.87e-07
Problem 5(50000)	IV	11/55/0.091/1.62e-07	11/56/0.087/5.57e-07	11/56/0.085/8.20e-07	11/55/0.086/6.22e-07
Problem 5(50000)	V	11/55/0.086/9.08e-07	12/61/0.105/7.03e-07	12/61/0.096/6.68e-07	12/61/0.099/5.10e-07
Problem 5(100000)	I	11/54/0.273/6.49e-07	12/59/0.367/8.83e-07	12/59/0.385/8.71e-07	11/55/0.347/6.55e-07
Problem 5(100000)	II	12/60/0.345/3.16e-07	13/65/0.337/8.23e-07	13/65/0.397/8.20e-07	12/61/0.365/6.15e-07
Problem 5(100000)	III	12/59/0.347/7.45e-07	13/65/0.393/6.93e-07	13/65/0.360/6.82e-07	12/61/0.387/8.13e-07
Problem 5(100000)	IV	11/55/0.352/2.20e-07	11/55/0.303/9.41e-07	11/55/0.350/9.77e-07	11/55/0.307/8.40e-07
Problem 5(100000)	V	12/60/0.328/2.04e-07	13/65/0.409/5.33e-07	13/65/0.410/5.25e-07	12/61/0.418/7.23e-07
Problem 6(10000)	I	12/71/0.042/3.99e-07	10/59/0.015/3.39e-07	9/54/0.011/8.51e-07	10/59/0.011/5.16e-07
Problem 6(10000)	II	13/77/0.015/7.68e-07	11/62/0.013/1.93e-07	11/62/0.012/2.44e-07	11/62/0.013/4.80e-08
Problem 6(10000)	III	13/76/0.020/9.55e-07	11/63/0.017/5.53e-07	11/63/0.017/5.83e-07	11/63/0.017/4.34e-07
Problem 6(10000)	IV	13/76/0.020/6.22e-07	11/63/0.017/5.19e-07	11/63/0.017/5.46e-07	10/59/0.016/9.93e-07
Problem 6(10000)	V	13/72/0.018/5.25e-07	12/67/0.017/7.99e-07	12/67/0.018/8.01e-07	12/67/0.017/8.26e-07
Problem 6(50000)	I	12/71/0.085/8.06e-07	10/59/0.076/6.73e-07	10/59/0.072/5.59e-07	10/60/0.073/6.33e-08
Problem 6(50000)	II	13/78/0.092/9.70e-07	11/62/0.074/2.86e-07	11/62/0.074/3.76e-07	11/62/0.073/5.88e-09
Problem 6(50000)	III	13/77/0.090/9.71e-07	12/67/0.076/1.45e-07	12/67/0.075/1.84e-07	11/63/0.076/9.25e-07
Problem 6(50000)	IV	13/76/0.088/9.60e-07	12/67/0.078/1.32e-07	12/67/0.077/1.68e-07	11/63/0.077/8.49e-07
Problem 6(50000)	V	13/73/0.083/9.98e-07	13/70/0.081/8.02e-07	13/70/0.081/8.88e-07	13/72/0.081/7.77e-07
Problem 6(100000)	I	12/71/0.220/8.35e-07	10/59/0.305/6.50e-07	10/59/0.284/5.25e-07	10/60/0.318/7.34e-08
Problem 6(100000)	II	14/83/0.488/4.99e-07	11/62/0.342/2.31e-08	11/62/0.355/2.84e-08	9/54/0.309/9.52e-07
Problem 6(100000)	III	14/82/0.242/4.13e-07	12/67/0.198/2.11e-07	9/53/0.163/6.57e-08	12/67/0.184/1.12e-07
Problem 6(100000)	IV	13/77/0.229/6.60e-07	12/67/0.361/1.93e-07	9/53/0.283/8.92e-07	12/67/0.379/1.01e-07
Problem 6(100000)	V	14/78/0.321/5.75e-07	13/71/0.378/6.58e-07	13/71/0.365/6.53e-07	13/71/0.373/6.60e-07
Problem 7(10000)	I	8/34/0.057/2.40e-08	9/38/0.028/8.52e-07	9/38/0.024/9.02e-07	9/38/0.023/8.84e-07
Problem 7(10000)	II	9/38/0.023/1.87e-07	9/38/0.024/7.83e-07	9/38/0.023/8.29e-07	9/38/0.023/8.15e-07
Problem 7(10000)	III	9/38/0.022/2.32e-07	9/38/0.023/7.58e-07	9/38/0.023/8.02e-07	9/38/0.024/7.91e-07
Problem 7(10000)	IV	9/38/0.017/1.74e-07	9/38/0.017/5.32e-07	9/38/0.017/5.63e-07	9/38/0.017/5.56e-07
Problem 7(10000)	V	8/34/0.015/2.09e-08	9/38/0.017/8.53e-07	9/38/0.018/9.03e-07	9/38/0.017/8.84e-07
Problem 7(50000)	I	8/34/0.082/3.47e-07	9/38/0.156/9.69e-07	10/42/0.226/9.13e-08	10/42/0.225/8.99e-08
Problem 7(50000)	II	8/34/0.149/5.16e-08	9/38/0.211/9.39e-07	9/38/0.213/9.94e-07	9/38/0.212/9.74e-07

Table 2: Numerical results for Group B

Problem(n)	Case	irhCGP-II-1	irhCGP-II-2	irhCGP-II-3	irhCGP-II-4
		Iter/NF/Time/ $\ g^*\ $	Iter/NF/Time/ $\ g^*\ $	Iter/NF/Time/ $\ g^*\ $	Iter/NF/Time/ $\ g^*\ $
Problem 1(10000)	I	13/56/0.017/5.16e-07	10/44/0.012/8.34e-07	10/43/0.012/5.45e-07	10/43/0.011/5.45e-07
Problem 1(10000)	II	12/51/0.013/3.94e-07	10/44/0.011/1.99e-07	10/43/0.011/8.95e-07	10/43/0.011/8.95e-07
Problem 1(10000)	III	13/55/0.014/2.44e-07	10/43/0.011/2.55e-07	11/47/0.012/3.09e-07	11/47/0.012/3.09e-07
Problem 1(10000)	IV	14/62/0.017/3.87e-07	11/50/0.013/4.83e-07	11/48/0.012/3.97e-07	10/44/0.013/2.84e-07
Problem 1(10000)	V	13/56/0.014/4.54e-07	10/44/0.011/7.33e-07	10/43/0.011/4.89e-07	10/43/0.011/3.66e-07
Problem 1(50000)	I	14/60/0.073/3.03e-07	11/48/0.057/1.55e-07	10/43/0.055/4.11e-07	10/43/0.052/4.11e-07
Problem 1(50000)	II	12/51/0.063/5.10e-07	10/44/0.055/6.80e-07	10/43/0.054/7.75e-07	10/43/0.055/7.75e-07
Problem 1(50000)	III	13/55/0.068/4.21e-07	9/39/0.048/1.12e-07	11/47/0.058/4.87e-07	11/47/0.059/4.87e-07
Problem 1(50000)	IV	14/62/0.079/8.05e-07	12/54/0.069/1.03e-07	11/48/0.065/4.19e-07	11/48/0.065/4.19e-07
Problem 1(50000)	V	13/56/0.109/9.64e-07	11/48/0.098/1.20e-07	10/43/0.087/7.46e-07	10/43/0.079/5.53e-07
Problem 1(100000)	I	14/60/0.450/4.08e-07	11/48/0.370/2.59e-07	10/43/0.329/1.91e-07	10/43/0.330/1.91e-07
Problem 1(100000)	II	12/51/0.353/6.03e-07	11/48/0.322/4.52e-08	9/39/0.265/9.41e-07	9/39/0.178/9.41e-07
Problem 1(100000)	III	13/55/0.411/4.94e-07	10/43/0.296/6.20e-08	11/47/0.338/8.27e-07	11/47/0.355/8.27e-07
Problem 1(100000)	IV	15/66/0.476/3.09e-07	12/54/0.399/1.68e-07	11/48/0.370/3.89e-07	10/44/0.329/2.30e-07
Problem 1(100000)	V	14/60/0.426/3.70e-07	11/48/0.350/2.27e-07	10/43/0.319/8.01e-07	10/43/0.328/7.18e-07
Problem 2(10000)	I	15/62/0.027/6.53e-07	14/58/0.022/4.34e-07	19/78/0.030/7.51e-07	19/78/0.031/1.22e-07
Problem 2(10000)	II	14/59/0.025/8.34e-07	14/59/0.023/9.71e-08	19/79/0.030/3.29e-07	18/75/0.029/5.15e-07
Problem 2(10000)	III	16/67/0.027/3.88e-07	13/55/0.022/9.91e-07	18/75/0.030/9.05e-07	18/75/0.033/2.05e-07
Problem 2(10000)	IV	14/61/0.024/7.90e-07	14/61/0.024/8.77e-08	18/76/0.030/4.55e-07	18/76/0.030/1.31e-07
Problem 2(10000)	V	17/70/0.038/4.85e-07	15/62/0.031/5.91e-07	20/82/0.042/1.78e-07	19/78/0.040/2.44e-07
Problem 2(50000)	I	18/74/0.326/4.23e-07	16/66/0.263/1.50e-07	21/86/0.377/9.58e-07	20/82/0.346/9.47e-07
Problem 2(50000)	II	18/75/0.301/3.08e-07	16/67/0.165/2.84e-07	21/87/0.197/4.31e-07	20/83/0.221/4.89e-07
Problem 2(50000)	III	17/71/0.222/3.94e-07	15/63/0.273/6.94e-07	21/87/0.285/1.44e-07	20/83/0.278/1.93e-07
Problem 2(50000)	IV	18/77/0.197/3.08e-07	16/69/0.175/2.71e-07	20/84/0.246/5.75e-07	19/80/0.285/9.82e-07
Problem 2(50000)	V	18/74/0.318/4.03e-07	16/66/0.281/2.12e-07	22/90/0.392/1.95e-07	21/86/0.324/1.99e-07
Problem 2(100000)	I	18/74/0.587/3.76e-07	16/66/0.558/8.10e-07	22/90/0.773/8.03e-07	21/86/0.747/6.94e-07
Problem 2(100000)	II	16/67/0.589/8.60e-07	16/67/0.571/5.25e-07	22/91/0.776/3.60e-07	21/87/0.731/3.56e-07
Problem 2(100000)	III	18/75/0.593/2.87e-07	16/67/0.548/2.74e-07	21/87/0.716/9.89e-07	21/87/0.670/1.40e-07
Problem 2(100000)	IV	16/69/0.552/8.58e-07	16/69/0.590/4.85e-07	21/88/0.829/4.82e-07	20/84/0.691/7.17e-07
Problem 2(100000)	V	19/78/0.613/5.24e-07	17/70/0.498/3.13e-07	23/94/0.757/2.89e-07	22/90/0.713/2.41e-07
Problem 3(10000)	I	12/50/0.012/4.85e-07	9/38/0.009/6.89e-07	10/42/0.010/7.94e-07	10/42/0.009/7.94e-07
Problem 3(10000)	II	13/54/0.011/4.12e-07	10/42/0.009/8.13e-07	12/50/0.011/7.82e-07	12/50/0.011/7.48e-07
Problem 3(10000)	III	12/50/0.012/6.74e-07	11/46/0.011/1.85e-07	13/54/0.012/4.91e-07	13/54/0.016/2.54e-07
Problem 3(10000)	IV	13/54/0.015/6.11e-07	11/46/0.012/4.53e-07	14/58/0.017/8.48e-07	14/58/0.016/3.12e-07
Problem 3(10000)	V	11/46/0.013/2.68e-07	8/34/0.010/3.31e-07	11/46/0.014/4.71e-07	11/46/0.014/3.66e-07
Problem 3(50000)	I	13/54/0.074/2.80e-07	10/42/0.058/9.82e-08	11/46/0.064/3.84e-08	11/46/0.063/3.84e-08
Problem 3(50000)	II	13/54/0.074/5.10e-07	11/46/0.061/1.57e-07	13/54/0.074/2.78e-07	13/54/0.076/2.68e-07
Problem 3(50000)	III	12/50/0.067/8.78e-07	11/46/0.061/3.27e-07	14/58/0.077/1.68e-07	14/58/0.079/7.40e-08
Problem 3(50000)	IV	13/54/0.070/7.08e-07	12/50/0.062/7.76e-08	15/62/0.085/3.49e-07	15/62/0.081/9.84e-08
Problem 3(50000)	V	11/46/0.060/2.88e-07	8/34/0.046/8.89e-07	12/50/0.067/6.86e-08	12/50/0.065/4.67e-08
Problem 3(100000)	I	13/54/0.316/3.27e-07	10/42/0.249/2.35e-07	11/46/0.272/1.45e-07	11/46/0.284/1.45e-07
Problem 3(100000)	II	13/54/0.324/5.74e-07	11/46/0.273/2.42e-07	13/54/0.330/5.80e-07	13/54/0.335/5.66e-07
Problem 3(100000)	III	13/54/0.354/3.28e-07	11/46/0.322/4.45e-07	14/58/0.344/3.65e-07	14/58/0.338/2.00e-07
Problem 3(100000)	IV	13/54/0.305/8.35e-07	12/50/0.274/1.21e-07	15/62/0.379/5.95e-07	15/62/0.396/2.30e-07
Problem 3(100000)	V	11/46/0.254/2.66e-07	8/34/0.190/9.48e-07	12/50/0.302/1.53e-07	12/50/0.278/1.18e-07
Problem 4(10000)	I	17/79/0.035/5.20e-07	16/73/0.032/5.58e-07	18/79/0.035/7.14e-07	18/80/0.036/5.41e-07
Problem 4(10000)	II	17/80/0.036/3.79e-07	14/66/0.029/9.84e-07	17/76/0.033/4.45e-07	16/72/0.032/9.32e-07
Problem 4(10000)	III	15/69/0.030/3.56e-07	15/69/0.031/3.92e-07	17/75/0.033/5.69e-07	17/76/0.034/5.34e-07
Problem 4(10000)	IV	16/74/0.034/4.44e-07	15/69/0.030/6.72e-07	17/75/0.033/9.65e-07	17/75/0.033/5.53e-07
Problem 4(10000)	V	17/79/0.035/3.83e-07	16/73/0.032/7.11e-07	19/82/0.036/4.98e-07	18/80/0.035/7.69e-07
Problem 4(50000)	I	17/78/0.370/5.03e-07	17/78/0.376/6.63e-07	18/79/0.268/6.43e-07	18/80/0.301/4.78e-07
Problem 4(50000)	II	15/69/0.322/7.01e-07	15/71/0.337/9.51e-07	17/75/0.319/4.14e-07	16/71/0.280/9.73e-07
Problem 4(50000)	III	16/74/0.364/8.18e-07	16/75/0.321/3.33e-07	17/75/0.378/5.29e-07	17/76/0.367/4.47e-07
Problem 4(50000)	IV	16/74/0.339/4.64e-07	16/73/0.364/4.72e-07	17/74/0.319/7.40e-07	17/75/0.333/6.87e-07
Problem 4(50000)	V	17/78/0.293/4.98e-07	17/78/0.241/9.76e-07	18/79/0.199/6.16e-07	18/80/0.358/4.47e-07
Problem 4(100000)	I	17/78/0.693/4.88e-07	17/77/0.669/9.97e-07	18/79/0.710/8.61e-07	19/84/0.729/3.05e-07
Problem 4(100000)	II	16/75/0.461/5.53e-07	16/75/0.402/2.98e-07	16/71/0.460/8.42e-07	16/71/0.568/7.26e-07
Problem 4(100000)	III	17/79/0.632/4.06e-07	16/74/0.673/5.54e-07	17/74/0.620/5.94e-07	17/76/0.645/5.29e-07
Problem 4(100000)	IV	16/74/0.752/4.14e-07	16/73/0.636/4.46e-07	17/75/0.648/6.76e-07	17/75/0.664/5.75e-07
Problem 4(100000)	V	17/78/0.532/4.83e-07	18/81/0.679/5.29e-07	19/83/0.668/4.66e-07	18/80/0.756/9.09e-07
Problem 5(10000)	I	13/65/0.020/5.42e-07	9/45/0.014/7.48e-07	13/63/0.019/7.91e-07	12/59/0.018/5.37e-07
Problem 5(10000)	II	14/72/0.023/9.58e-07	12/60/0.019/6.35e-07	13/64/0.020/2.36e-07	13/64/0.021/8.29e-07
Problem 5(10000)	III	15/76/0.024/6.19e-07	11/57/0.018/4.83e-07	13/63/0.019/9.98e-07	13/64/0.020/5.24e-07
Problem 5(10000)	IV	15/74/0.022/8.03e-07	11/55/0.018/7.39e-07	13/64/0.019/2.01e-07	13/64/0.020/9.98e-07
Problem 5(10000)	V	16/81/0.024/2.62e-07	11/57/0.018/7.99e-07	13/64/0.020/1.88e-07	13/64/0.020/6.72e-07
Problem 5(50000)	I	15/75/0.115/8.06e-07	11/54/0.083/9.85e-07	13/63/0.094/7.94e-07	14/68/0.100/4.58e-07
Problem 5(50000)	II	16/81/0.121/8.42e-07	12/62/0.099/4.87e-07	14/68/0.100/7.25e-07	14/69/0.108/5.34e-07
Problem 5(50000)	III	15/76/0.122/7.48e-07	11/57/0.097/8.14e-07	14/68/0.102/6.79e-07	14/69/0.109/3.24e-07
Problem 5(50000)	IV	14/70/0.107/8.91e-07	10/51/0.086/3.45e-07	13/64/0.105/2.83e-07	14/68/0.102/7.92e-07
Problem 5(50000)	V	15/76/0.121/9.74e-07	12/61/0.093/6.92e-07	14/68/0.096/6.02e-07	13/65/0.097/6.14e-07
Problem 5(100000)	I	15/75/0.440/7.30e-07	11/56/0.301/6.39e-07	14/67/0.406/7.01e-07	14/68/0.425/5.38e-07
Problem 5(100000)	II	17/87/0.488/5.45e-07	12/62/0.378/4.84e-07	14/69/0.277/5.38e-07	14/69/0.435/6.83e-07
Problem 5(100000)	III	15/76/0.472/2.61e-07	12/62/0.403/4.64e-07	14/69/0.419/3.33e-07	14/69/0.421/6.11e-07
Problem 5(100000)	IV	14/70/0.409/7.77e-07	12/59/0.361/1.38e-07	13/64/0.435/3.96e-07	14/68/0.409/9.41e-07
Problem 5(100000)	V	16/82/0.501/8.99e-07	12/62/0.396/3.60e-07	14/69/0.430/2.25e-07	14/69/0.444/4.04e-07
Problem 6(10000)	I	9/52/0.010/5.88e-07	9/49/0.010/8.44e-07	10/44/0.009/3.00e-07	10/46/0.009/5.10e-07
Problem 6(10000)	II	11/49/0.010/4.25e-07	10/53/0.011/6.11e-07	11/47/0.010/2.79e-07	11/47/0.010/2.79e-07
Problem 6(10000)	III	11/51/0.014/3.57e-07	10/55/0.015/8.31e-07	11/47/0.013/1.80e-07	11/47/0.015/1.80e-07
Problem 6(10000)	IV	11/50/0.014/5.55e-07	9/50/0.013/9.38e-07	11/47/0.013/2.18e-07	11/47/0.013/2.18e-07
Problem 6(10000)	V	12/61/0.015/1.96e-07	11/60/0.017/6.45e-07	11/49/0.013/3.22e-07	11/49/0.013/3.29e-07
Problem 6(50000)	I	10/56/0.062/5.24e-07	9/50/0.055/5.47e-07	10/44/0.052/5.91e-07	11/50/0.057/1.46e-07
Problem 6(50000)	II	11/49/0.057/4.79e-07	10/53/0.060/6.19e-07	11/47/0.057/4.55e-07	11/47/0.057/4.55e-07
Problem 6(50000)	III	11/51/0.061/6.20e-07	10/56/0.067/1.28e-07	11/47/0.057/8.93e-07	11/47/0.058/8.93e-07
Problem 6(50000)	IV	11/50/0.060/6.90e-07	10/56/0.069/1.08e-07	11/47/0.058/8.35e-07	11/47/0.060/8.35e-07
Problem 6(50000)	V	11/50/0.055/6.20e-07	11/61/0.068/8.00e-07	11/49/0.058/6.86e-07	11/49/0.060/6.96e-07
Problem 6(100000)	I	10/56/0.266/5.62e-07	9/50/0.255/4.91e-07	10/44/0.238/5.56e-07	10/46/0.259/9.60e-07
Problem 6(100000)	II	11/49/0.269/5.81e-07	10/51/0.265/8.10e-07	11/47/0.259/5.86e-07	11/47/0.277/5.86e-07
Problem 6(100000)	III	11/51/0.161/6.81e-07	11/60/0.211/4.80e-07	12/51/0.159/7.99e-08	12/51/0.315/7.99e-08
Problem 6(100000)	IV	11/50/0.284/8.16e-07	11/60/0.332/3.53e-07	12/51/0.289/7.23e-08	12/51/0.290/7.23e-08
Problem 6(100000)	V	11/55/0.297/5.61e-07	11/61/0.324/2.53e-07	11/49/0.283/8.89e-07	11/49/0.276/9.02e-07
Problem 7(10000)	I	12/50/0.029/2.89e-07	10/42/0.025/1.30e-07	11/46/0.028/1.54e-07	11/46/0.028/1.54e-07
Problem 7(10000)	II	12/50/0.029/3.03e-07	10/42/0.026/1.24e-07	11/46/0.028/1.52e-07	11/46/0.028/1.52e-07
Problem 7(10000)	III	12/50/0.032/2.93e-07	10/42/0.027/1.22e-07	11/46/0.022/1.51e-07	11/46/0.021/1.51e-07
Problem 7(10000)	IV	12/50/0.023/2.04e-07	9/38/0.017/6.86e-07	10/42/0.018/9.12e-07	10/42/0.019/9.12e-07
Problem 7(10000)	V	12/50/0.023/2.87e-07	10/42/0.019/1.30e-07	10/42/0.020/5.24e-07	10/42/0.020/6.02e-07
Problem 7(50000)	I	12/50/0.260/2.80e-07	10/42/0.222/1.14e-07	10/42/0.222/9.92e-07	10/42/0.225/9.92e-07
Problem 7(50000)	II	12/50/0.251/2.86e-07	10/42/0.225/1.02e-07	11/46/0.239/1.90e-07	11/46/0.246/1.90e-07
Problem 7(50000)	III	12			

Table 3: Numerical results for Group C

Problem(n)	Case	irhCGP-I-1 Itr/NF/Time/  g*	irhCGP-II-2 Itr/NF/Time/  g*	irhCGP-I-NR Itr/NF/Time/  g*	irhCGP-II-NR Itr/NF/Time/  g*	MITTCGP Itr/NF/Time/  g*	IM3TFR2 Itr/NF/Time/  g*
Problem 1(10000)	I	7/31/0.025/6.98e-07	10/44/0.012/8.34e-07	10/44/0.019/6.08e-07	10/45/0.016/1.19e-07	11/47/0.022/1.04e-06	14/66/0.022/6.75e-07
Problem 1(10000)	II	8/35/0.009/2.18e-07	10/44/0.011/1.99e-07	9/39/0.012/5.84e-07	10/45/0.012/1.21e-07	15/61/0.021/7.76e-07	15/76/0.022/2.64e-07
Problem 1(10000)	III	8/35/0.011/3.42e-07	10/43/0.011/2.55e-07	9/39/0.012/7.60e-07	9/40/0.011/1.13e-07	13/56/0.015/1.26e-06	15/72/0.019/3.00e-08
Problem 1(10000)	IV	8/37/0.011/5.74e-07	11/50/0.013/4.83e-07	10/45/0.012/9.33e-08	11/51/0.014/9.96e-08	16/66/0.018/7.22e-07	10/47/0.012/7.03e-09
Problem 1(10000)	V	7/31/0.008/5.57e-07	10/44/0.011/7.33e-07	10/43/0.011/4.17e-07	10/45/0.011/2.03e-07	12/51/0.014/1.47e-06	16/69/0.017/6.70e-07
Problem 1(50000)	I	8/35/0.044/7.91e-07	11/48/0.057/1.55e-07	11/48/0.060/1.40e-07	10/45/0.054/1.67e-07	13/53/0.065/6.55e-07	14/69/0.081/7.14e-07
Problem 1(50000)	II	8/35/0.046/4.28e-07	10/44/0.055/6.80e-07	10/43/0.053/2.82e-07	10/45/0.054/1.63e-07	16/65/0.081/3.34e-07	10/45/0.058/2.49e-07
Problem 1(50000)	III	9/39/0.048/1.11e-07	9/39/0.048/1.12e-07	10/43/0.054/2.54e-07	9/40/0.050/2.61e-07	14/58/0.073/7.14e-07	16/80/0.098/1.83e-07
Problem 1(50000)	IV	10/45/0.059/9.20e-08	12/54/0.069/1.03e-07	10/45/0.110/6.43e-07	11/51/0.199/1.35e-07	17/70/0.147/3.33e-07	17/75/0.134/7.22e-07
Problem 1(50000)	V	8/35/0.061/2.65e-07	11/48/0.098/1.20e-07	10/43/0.077/6.43e-07	10/45/0.077/3.45e-07	13/53/0.091/6.31e-07	16/70/0.113/8.87e-07
Problem 1(100000)	I	9/39/0.203/1.44e-07	11/48/0.370/2.59e-07	11/48/0.356/3.15e-07	10/45/0.312/1.94e-07	13/53/0.382/9.26e-07	15/61/0.447/3.80e-07
Problem 1(100000)	II	8/35/0.228/2.76e-07	11/48/0.322/4.52e-08	10/43/0.152/5.53e-07	10/45/0.158/1.86e-07	16/65/0.256/5.39e-07	16/68/0.422/5.02e-07
Problem 1(100000)	III	9/39/0.294/1.40e-07	10/43/0.396/6.20e-08	10/43/0.319/5.11e-07	9/40/0.297/2.82e-07	14/60/0.457/1.06e-06	17/80/0.573/6.61e-09
Problem 1(100000)	IV	10/45/0.349/1.51e-07	12/54/0.299/1.68e-07	11/49/0.356/9.81e-08	11/51/0.381/1.62e-07	17/70/0.554/4.97e-07	17/79/0.677/2.44e-07
Problem 1(100000)	V	8/35/0.258/7.50e-07	11/48/0.350/2.27e-07	10/43/0.325/8.07e-07	10/45/0.342/7.40e-07	13/55/0.408/1.07e-06	19/83/0.415/5.50e-07
Problem 2(10000)	I	14/58/0.035/7.14e-07	14/58/0.022/4.34e-07	18/74/0.029/2.16e-07	16/66/0.026/3.14e-07	16/67/0.028/1.18e-06	19/82/0.030/7.96e-07
Problem 2(10000)	II	14/59/0.024/9.62e-07	14/59/0.023/9.71e-08	17/71/0.029/8.81e-07	15/63/0.025/3.80e-07	14/59/0.024/1.16e-06	20/87/0.035/4.97e-07
Problem 2(10000)	III	14/59/0.024/1.32e-07	13/55/0.022/9.91e-07	17/71/0.033/4.99e-07	15/63/0.028/2.83e-07	17/74/0.032/6.99e-07	17/74/0.029/7.83e-07
Problem 2(10000)	IV	14/61/0.025/9.61e-07	14/61/0.024/8.77e-08	17/73/0.031/6.82e-07	15/65/0.028/2.14e-07	13/54/0.023/8.03e-07	20/85/0.034/5.64e-07
Problem 2(10000)	V	14/58/0.025/4.04e-07	15/62/0.031/5.91e-07	18/74/0.033/4.68e-07	16/66/0.027/1.96e-07	17/69/0.029/9.45e-07	21/91/0.037/6.45e-07
Problem 2(50000)	I	16/66/0.155/1.70e-07	16/66/0.263/1.50e-07	20/82/0.347/1.79e-07	17/70/0.329/3.83e-07	17/69/0.270/3.20e-07	20/83/0.335/9.19e-07
Problem 2(50000)	II	15/63/0.217/6.52e-07	16/67/0.165/2.84e-07	19/79/0.257/7.28e-07	17/71/0.295/2.30e-07	15/61/0.288/9.81e-07	20/85/0.336/1.08e-07
Problem 2(50000)	III	15/63/0.220/5.12e-07	15/63/0.273/6.94e-07	19/79/0.283/3.77e-07	17/71/0.283/6.26e-07	22/100/0.426/8.98e-07	16/71/0.321/4.06e-07
Problem 2(50000)	IV	15/65/0.252/6.54e-07	16/69/0.175/2.71e-07	19/81/0.199/5.77e-07	17/73/0.164/3.54e-07	13/56/0.128/1.13e-06	18/80/0.184/8.40e-08
Problem 2(50000)	V	17/70/0.167/2.52e-07	16/66/0.281/2.12e-07	20/82/0.355/2.68e-07	18/74/0.326/2.46e-07	18/73/0.301/4.27e-07	20/88/0.391/4.68e-07
Problem 2(100000)	I	16/66/0.521/4.67e-07	16/66/0.558/8.10e-07	20/82/0.721/8.34e-07	18/74/0.600/2.20e-07	18/75/0.541/1.06e-06	20/86/0.701/4.55e-07
Problem 2(100000)	II	16/67/0.454/5.41e-07	16/67/0.571/5.25e-07	20/83/0.641/5.35e-07	18/75/0.547/4.86e-07	16/65/0.551/8.17e-07	20/85/0.719/5.13e-07
Problem 2(100000)	III	16/67/0.535/9.62e-07	16/67/0.548/2.74e-07	20/83/0.683/2.54e-07	18/75/0.655/3.03e-07	23/98/0.906/5.43e-08	20/86/0.634/2.69e-07
Problem 2(100000)	IV	16/69/0.540/5.41e-07	16/69/0.590/4.85e-07	20/85/0.694/3.58e-07	18/77/0.647/7.33e-07	14/60/0.480/1.20e-06	22/97/0.717/5.34e-07
Problem 2(100000)	V	17/70/0.585/5.73e-07	17/70/0.498/3.13e-07	21/86/0.659/2.98e-07	19/78/0.806/2.54e-07	19/77/0.631/4.93e-07	22/93/0.716/9.58e-07
Problem 3(10000)	I	8/34/0.030/6.29e-07	9/38/0.009/6.89e-07	10/42/0.011/6.17e-07	9/38/0.008/7.90e-08	14/57/0.010/8.31e-07	14/59/0.009/5.79e-07
Problem 3(10000)	II	9/38/0.008/3.22e-07	10/42/0.009/8.13e-07	12/50/0.011/2.17e-07	10/42/0.009/1.89e-07	16/65/0.013/3.47e-07	10/44/0.007/7.22e-07
Problem 3(10000)	III	10/42/0.010/2.86e-07	11/46/0.011/1.85e-07	12/50/0.014/8.76e-07	10/42/0.012/7.14e-07	16/67/0.019/1.04e-06	13/50/0.013/4.83e-07
Problem 3(10000)	IV	11/46/0.013/1.82e-07	11/46/0.012/4.53e-07	14/58/0.016/1.53e-07	11/46/0.013/5.31e-07	18/73/0.020/6.11e-07	15/61/0.016/8.15e-07
Problem 3(10000)	V	9/38/0.011/6.76e-08	8/34/0.010/3.31e-07	11/46/0.014/2.89e-07	10/42/0.012/8.11e-08	14/59/0.017/1.21e-06	17/73/0.020/3.60e-07
Problem 3(50000)	I	9/38/0.052/4.00e-07	10/42/0.058/9.82e-08	11/46/0.062/1.90e-07	9/38/0.051/1.85e-07	15/61/0.082/4.01e-07	14/61/0.077/1.56e-07
Problem 3(50000)	II	10/42/0.056/5.83e-08	11/46/0.061/1.57e-07	12/50/0.071/6.40e-07	10/42/0.056/3.58e-07	16/65/0.087/8.29e-07	15/81/0.103/4.12e-07
Problem 3(50000)	III	10/42/0.056/1.71e-07	11/46/0.061/3.27e-07	13/54/0.078/3.46e-07	11/46/0.062/1.18e-07	17/69/0.098/5.61e-07	15/69/0.083/7.56e-07
Problem 3(50000)	IV	11/46/0.060/1.05e-07	12/50/0.062/7.76e-08	14/58/0.077/4.13e-07	12/50/0.065/8.98e-08	18/75/0.096/1.59e-06	18/75/0.091/3.19e-08
Problem 3(50000)	V	9/38/0.051/2.21e-07	8/34/0.046/8.89e-07	11/46/0.063/7.33e-07	10/42/0.058/1.61e-07	15/61/0.083/5.93e-07	16/68/0.085/6.03e-07
Problem 3(100000)	I	9/38/0.109/4.06e-07	10/42/0.249/2.35e-07	11/46/0.274/2.80e-07	9/38/0.228/2.67e-07	15/61/0.370/5.90e-07	15/61/0.378/6.78e-07
Problem 3(100000)	II	10/42/0.356/6.82e-08	11/46/0.273/2.42e-07	12/50/0.305/9.06e-07	10/42/0.244/7.46e-07	16/67/0.397/1.21e-06	17/74/0.405/8.10e-07
Problem 3(100000)	III	9/38/0.229/7.18e-07	11/46/0.322/4.45e-07	13/54/0.325/5.19e-07	11/46/0.272/1.55e-07	17/69/0.460/8.57e-07	18/81/0.337/1.57e-07
Problem 3(100000)	IV	10/42/0.242/8.51e-07	12/50/0.274/1.21e-07	14/58/0.439/5.69e-07	12/50/0.280/1.12e-07	19/77/0.428/4.24e-07	14/64/0.355/2.44e-07
Problem 3(100000)	V	9/38/0.226/4.03e-07	8/34/0.190/9.48e-07	12/50/0.271/1.28e-07	10/42/0.241/2.88e-07	15/61/0.358/8.65e-07	16/70/0.320/1.91e-07
Problem 4(10000)	I	17/78/0.062/7.59e-07	16/73/0.032/5.58e-07	21/93/0.041/4.64e-07	19/85/0.038/8.54e-07	22/90/0.042/6.25e-07	24/117/0.051/7.11e-07
Problem 4(10000)	II	16/74/0.032/5.53e-07	14/66/0.029/9.84e-07	18/79/0.036/6.41e-07	17/76/0.034/7.74e-07	14/59/0.028/2.08e-06	21/103/0.046/8.13e-07
Problem 4(10000)	III	16/74/0.033/6.30e-07	15/69/0.031/3.92e-07	19/84/0.037/5.07e-07	18/81/0.036/6.69e-07	15/63/0.029/3.27e-06	25/121/0.053/9.09e-07
Problem 4(10000)	IV	16/73/0.033/6.24e-07	15/69/0.030/6.72e-07	19/84/0.037/7.86e-07	18/81/0.036/9.60e-07	14/59/0.027/1.26e-06	20/96/0.043/4.07e-07
Problem 4(10000)	V	17/77/0.034/5.47e-07	16/73/0.032/7.11e-07	21/93/0.042/5.13e-07	20/90/0.040/6.90e-07	17/70/0.033/8.22e-07	22/108/0.048/8.67e-07
Problem 4(50000)	I	18/82/0.194/4.64e-07	17/78/0.376/6.63e-07	20/88/0.443/7.97e-07	19/85/0.538/8.75e-07	20/85/0.388/2.48e-06	24/120/0.548/7.68e-07
Problem 4(50000)	II	16/73/0.369/5.08e-07	15/71/0.337/9.51e-07	18/79/0.324/6.61e-07	17/76/0.300/5.89e-07	16/67/0.315/5.79e-06	25/124/0.608/5.77e-07
Problem 4(50000)	III	17/78/0.410/7.57e-07	16/75/0.321/3.33e-07	19/84/0.281/7.03e-07	18/80/0.354/6.70e-07	17/71/0.352/1.27e-06	19/95/0.277/7.49e-07
Problem 4(50000)	IV	16/72/0.267/8.15e-07	16/73/0.364/4.72e-07	20/89/0.448/6.41e-07	18/80/0.394/7.75e-07	16/67/0.360/2.28e-06	23/108/0.463/5.33e-07
Problem 4(50000)	V	18/82/0.307/4.48e-07	17/78/0.241/9.76e-07	20/88/0.466/7.41e-07	19/85/0.309/8.18e-07	18/77/0.364/1.73e-06	26/129/0.639/9.45e-07
Problem 4(100000)	I	18/82/0.727/8.69e-07	17/77/0.669/9.97e-07	21/93/0.658/7.20e-07	19/85/0.746/9.80e-07	19/81/0.754/1.93e-06	29/147/1.176/8.06e-07
Problem 4(100000)	II	16/73/0.550/4.61e-07	16/75/0.402/2.98e-07	18/80/0.695/7.27e-07	17/76/0.652/5.15e-07	14/59/0.547/2.83e-06	23/117/0.952/9.49e-07
Problem 4(100000)	III	16/73/0.579/8.71e-07	16/74/0.673/5.54e-07	19/84/0.770/6.59e-07	18/81/0.690/5.97e-07	14/59/0.535/3.62e-06	24/118/1.009/8.36e-07
Problem 4(100000)	IV	16/72/0.558/7.79e-07	16/73/0.636/4.46e-07	20/89/0.706/6.51e-07	18/80/0.653/7.88e-07	17/72/0.634/2.94e-06	23/108/0.938/1.31e-07
Problem 4(100000)	V	18/82/0.584/8.43e-07	18/81/0.679/5.29e-07	21/93/0.733/7.79e-07	20/89/0.669/5.46e-07	19/81/0.725/1.14e-06	29/144/0.901/6.51e-07
Problem 5(10000)	I	11/53/0.024/7.81e-07	9/45/0.014/7.48e-07	13/63/0.020/5.71e-07	10/49/0.015/6.99e-07	14/57/0.019/9.55e-08	16/82/0.024/8.82e-07
Problem 5(10000)	II	12/59/0.018/1.37e-07	12/60/0.019/6.35e-07	15/74/0.023/1.70e-07	13/67/0.021/1.45e-07	12/52/0.017/2.41e-06	16/80/0.024/9.12e-07
Problem 5(10000)	III	10/50/0.016/6.69e-07	11/57/0.018/4.83e-07	14/69/0.022/7.97e-07	13/67/0.021/1.57e-07	14/60/0.020/1.06e-06	17/88/0.026/1.77e-07
Problem 5(10000)	IV	11/55/0.017/4.91e-07	11/55/0.018/7.39e-07	14/68/0.022/8.24e-07	12/61/0.020/9.97e-07	12/53/0.020/1.92e-06	18/95/0.030/2.06e-07
Problem 5(10000)	V	12/60/0.019/1.46e-07	11/57/0.018/7.99e-07	15/74/0.023/1.85e-07	13/66/0.021/9.66e-07	19/78/0.025/9.49e-07	16/86/0.026/8.41e-07
Problem 5(50000)	I	11/54/0.081/3.58e-07	11/54/0.083/9.85e-07	14/68/0.102/3.50e-07	11/54/0.080/3.98e-07	13/55/0.089/1.72e-06	17/85/0.134/3.82e-07
Problem 5(50000)	II	11/56/0.096/9.53e-07	12/62/0.099/4.87e-07	15/74/0.111/2.10e-07	13/67/0.113/5.84e-07	12/52/0.089/1.18e-06	17/91/0.137/9.86e-07
Problem 5(50000)	III	12/60/0.091/1.86e-07	11/57/0.097/8.14e-07	14/68/0.105/8.65e-07	13/67/0.109/5.58e-07	13/56/0.094/2.63e-06	18/91/0.168/3.70e-07
Problem 5(50000)	IV	11/55/0.091/1.62e-07	10/51/0.086/3.45e-07	14/69/0.109/9.41e-07	13/67/0.104/5.67e-07	14/61/0.103/1.38e-06	23/117/0.189/2.18e-07
Problem 5(50000)	V	11/55/0.086/9.08e-07	12/61/0.093/6.92e-07	14/70/0.104/9.25e-07	13/67/0.1		