Supplementary Material to "Bi-objective parameter setting problem of a Genetic Algorithm: An empirical study on Traveling Salesperson Problem"

1. TSP instances

The details of the TSP instances used in the paper are presented in Table S1.

Table S1. 31 TSP instances used in the paper

Problem Size	*Index*	*Name*	*Number of Nodes*	*Data Type*	*Best Bound*	*References*
up-to-50	1	P01	15	MATRIX	291	[1]
	2	gr17	17	MATRIX	2085	[2] [3] [4]
	3	fri26	26	MATRIX	937	[2]
	4	bays29	29	MATRIX	2020	[2] [5] [3]
	5	dj38	38	EUC_2D	6656	[6]
	6	dantzig42	42	MATRIX	699	[2] [3] [7] [4]
	7	swiss42	42	MATRIX	1273	[2]
50-to-100	8	berlin52	52	EUC_2D	7542	[2]
	9	st70	70	EUC_2D	675	[2] [3] [4] [8]
	10	eil76	76	EUC_2D	538	[2] [3] [8]
	11	pr76	76	EUC_2D	108159	[2] [3] [8]
	12	rat99	99	EUC_2D	1211	[2] [3]
	13	kroA100	100	EUC_2D	21282	[2] [3] [4] [8] [9] [10] [11]
	14	kroC100	100	EUC_2D	20749	[2] [3] [4] [8] [9] [10] [11]
	15	kroD100	100	EUC_2D	21294	[2] [3] [4] [8] [9] [10] [11]
	16	kroE100	100	EUC_2D	22068	[2] [3] [4] [8] [9] [10] [11]
	17	rd100	100	EUC_2D	7910	[2] [3] [12]
100-to-200	18	eil101	101	EUC_2D	629	[2] [3] [8]
	19	lin105	105	EUC_2D	14379	[2] [3] [8]
	20	pr107	107	EUC_2D	44303	[2] [3] [8]
	21	ch130	130	EUC_2D	6110	[2]
	22	xqf131	131	EUC_2D	564	[13]
	23	pr136	136	EUC_2D	96772	[2] [3] [8]
	24	pr144	144	EUC_2D	58537	[2] [3] [8]
	25	kroA150	150	EUC_2D	26524	[2] [3] [8] [9]
	26	kroB150	150	EUC_2D	26130	[2] [3] [8] [9]
	27	pr152	152	EUC_2D	73682	[2] [3] [8]
	28	u159	159	EUC_2D	42080	[2] [3]
	29	qa194	194	EUC_2D	9352	[6]
	30	d198	198	EUC_2D	15780	[2] [3] [12]
	31	kroA200	200	EUC_2D	29368	[2] [3] [8] [9]

The "Problem Size" column displays the size classes the problem instances are classified into. The "Index" column labels the individual instances, and the "Number of Nodes" column indicates how many nodes the problem instances have. The "Data" column specifies the approach used to obtain the distances between node pairs. Two types of datasets are used for our TSP instances in their sources: MATRIX type datasets, which have the Euclidean distance information between node pairs in matrix format, and EUC_2D type datasets, which have coordinate information of the nodes in (x, y) format. For the latter, Euclidean distances between the coordinates are calculated

to determine the distances between node pairs. The “Best Bound” column displays the optimal objective function values of the instances, and the “References” column cites the sources of the problem data.

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