Supplementary Materials for:

Prediction of Wastewater Treatment Plant Performance using Multivariate Statistical Analysis: A Case Study of Regional Sewage Treatment Plant in Melaka, Malaysia

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Table S1. The relationships between the variables were examined by the Pearson correlation matrix.

Attribute	PC1	PC2	PC3	PC4	PC5
BOD_i	0.091	0.357	0.002	0.001	0.056
COD_i	0.183	0.670	0.006	0.001	0.008
TSS_i	0.188	0.503	0.033	0.000	0.003
$Ammonia_i$	0.108	0.153	0.145	0.038	0.111
pH_i	0.056	0.020	0.191	0.027	0.074
OG_i	0.177	0.343	0.000	0.000	0.004
BOD_e	0.474	0.092	0.002	0.057	0.000
COD_e	0.539	0.194	0.070	0.026	0.005
TSS_e	0.548	0.071	0.015	0.084	0.001
$Ammonia_e$	0.298	0.061	0.120	0.000	0.000
pH_e	0.004	0.011	0.115	0.149	0.377
OG_e	0.004	0.001	0.132	0.004	0.304
$TEMP_e$	0.027	0.004	0.227	0.029	0.001
$Nitrate_i$	0.008	0.009	0.001	0.565	0.119
$Nitrate_e$	0.000	0.022	0.395	0.079	0.000
MLSS	0.000	0.014	0.054	0.210	0.002
WWQI	0.762	0.186	0.011	0.000	0.001

Table S2. Pearson correlation matrix for wastewater quality parameters for all sampling points

	BOD influent	COD influent	TSS influent	NH$_3$ influent	BOD effluent	COD effluent	TSS effluent	NH$_3$ effluent
BOD$_i$	1.0	0.534	0.397	0.214	0.001	−0.006	−0.085	0.012
COD$_i$	0.534	1.0	0.841	0.350	−0.045	0.047	−0.107	−0.025
TSS$_i$	0.397	0.841	1.0	0.268	−0.092	−0.046	−0.110	0.002
NH$_{3i}$	0.214	0.350	0.268	1.0	−0.167	0.011	−0.106	−0.210
PH$_i$	0.068	0.199	0.196	0.055	−0.023	−0.177	−0.070	−0.045
OG$_i$	0.402	0.566	0.451	0.271	−0.122	−0.092	−0.094	−0.054
BOD$_i$	0.001	−0.045	−0.092	−0.167	1.0	0.582	0.416	0.326
COD$_e$	−0.006	0.047	−0.046	0.011	0.582	1.0	0.474	0.340
TSS$_e$	−0.085	−0.107	−0.110	−0.106	0.416	0.474	1.0	0.452
NH$_{3e}$	0.012	−0.025	0.002	−0.210	0.326	0.340	0.452	1.0
PH$_e$	−0.034	0.031	0.031	−0.002	0.167	0.068	−0.054	0.131
OG$_e$	−0.063	−0.092	−0.056	0.098	0.023	0.025	0.033	0.002
TEMP$_e$	−0.071	0.088	0.065	0.114	−0.070	0.003	−0.139	−0.113
NO$_3$N$_i$	−0.009	−0.006	0.021	0.120	−0.022	−0.043	0.256	0.071
NO$_3$N$_e$	0.127	0.057	−0.049	0.166	0.036	0.230	−0.106	−0.129
MLSS	0.015	0.054	0.017	0.107	0.035	0.110	−0.024	−0.035
WWQI	0.041	0.024	0.089	0.062	−0.678	−0.906	−0.791	−0.454