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Supplementary Material

PARETO-BASED MULTI-OBJECTIVE OPTIMIZATION OF UNDERGROUND HYDROGEN STORAGE OPERATIONAL CONDITION UTILIZING MACHINE LEARNING-BASED SURROGATE MODELS

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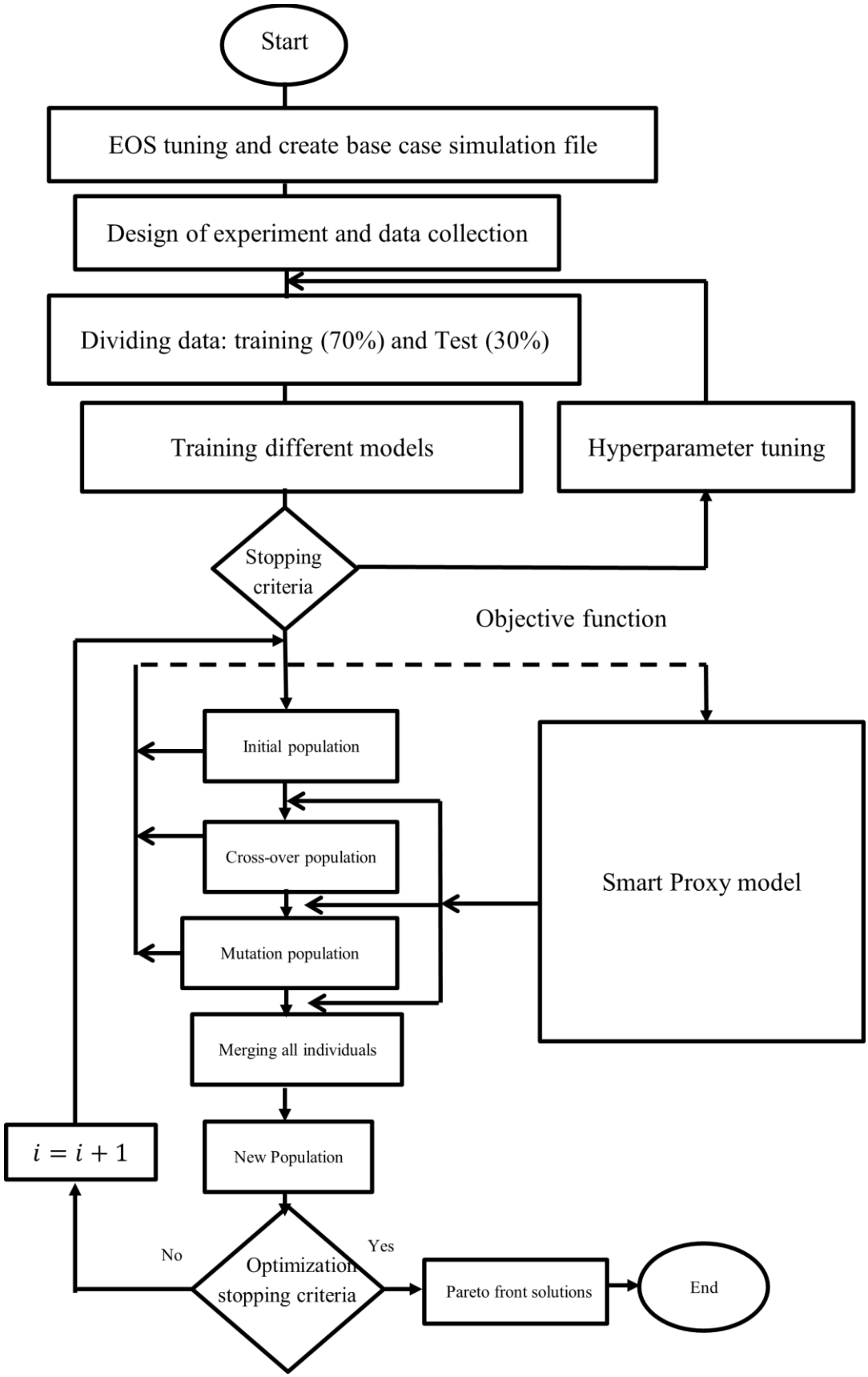

Figure S1: Flowchart illustrating the procedure for identifying the optimal solution.

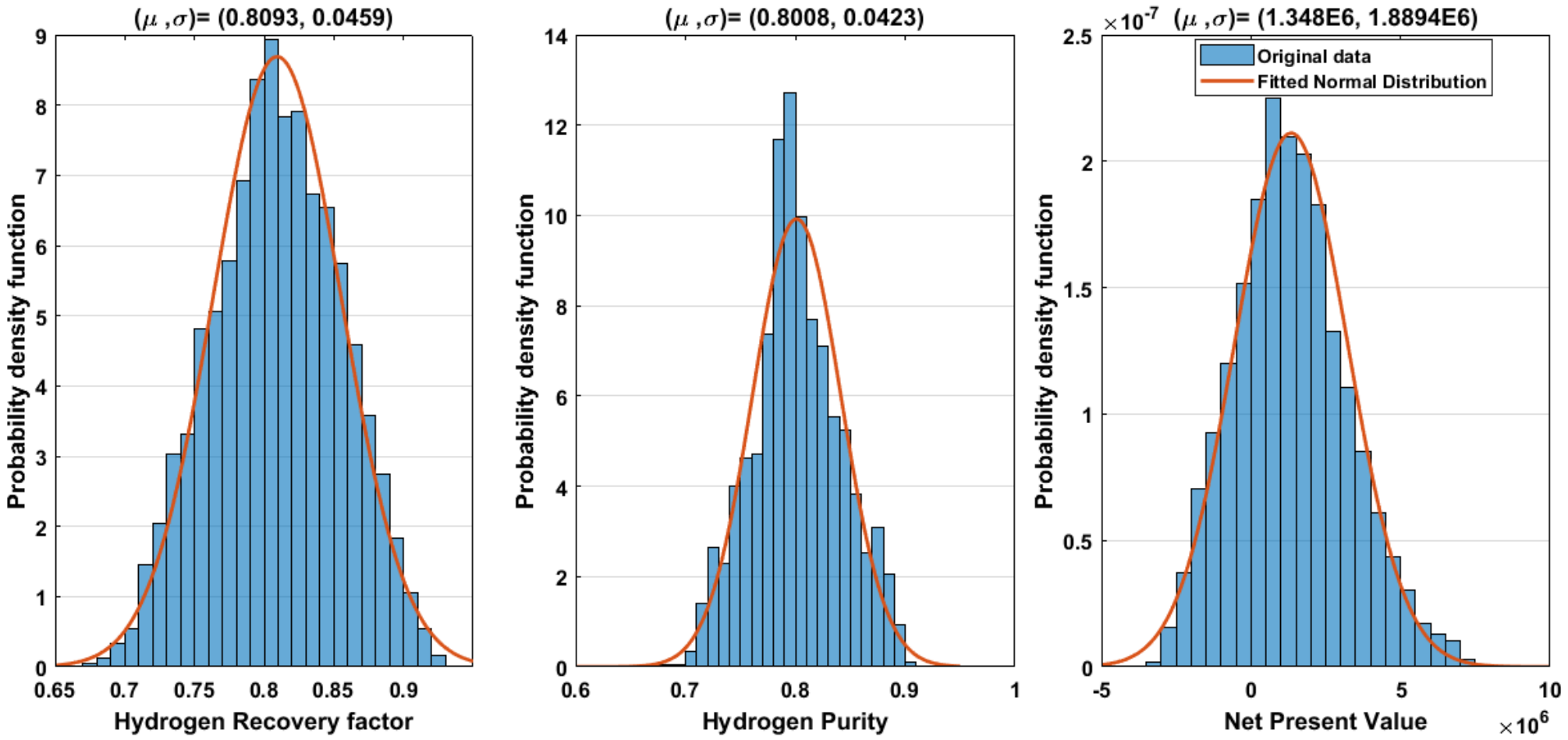

Figure S2: Histogram of selected target variables for this study.

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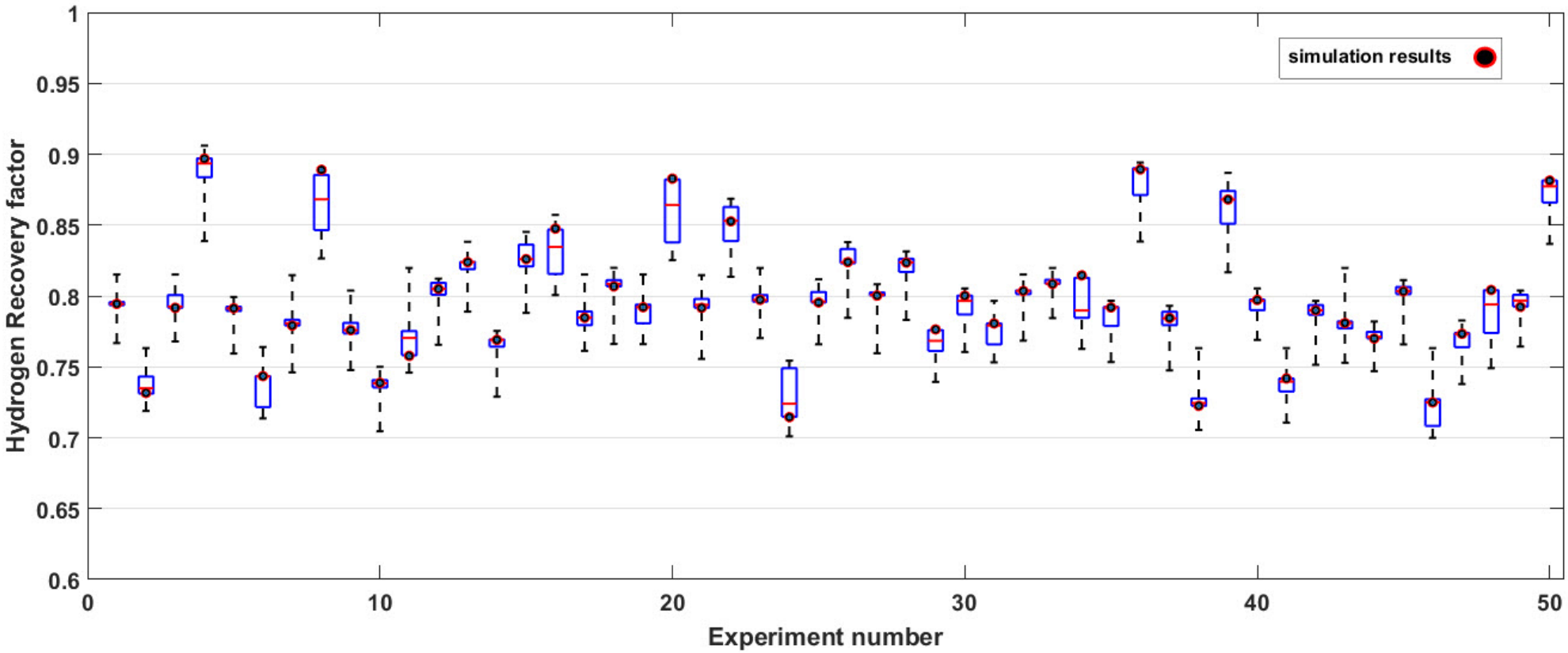

Figure S3: Simulation results and machine learning prediction results for hydrogen purity and hydrogen recovery factor.

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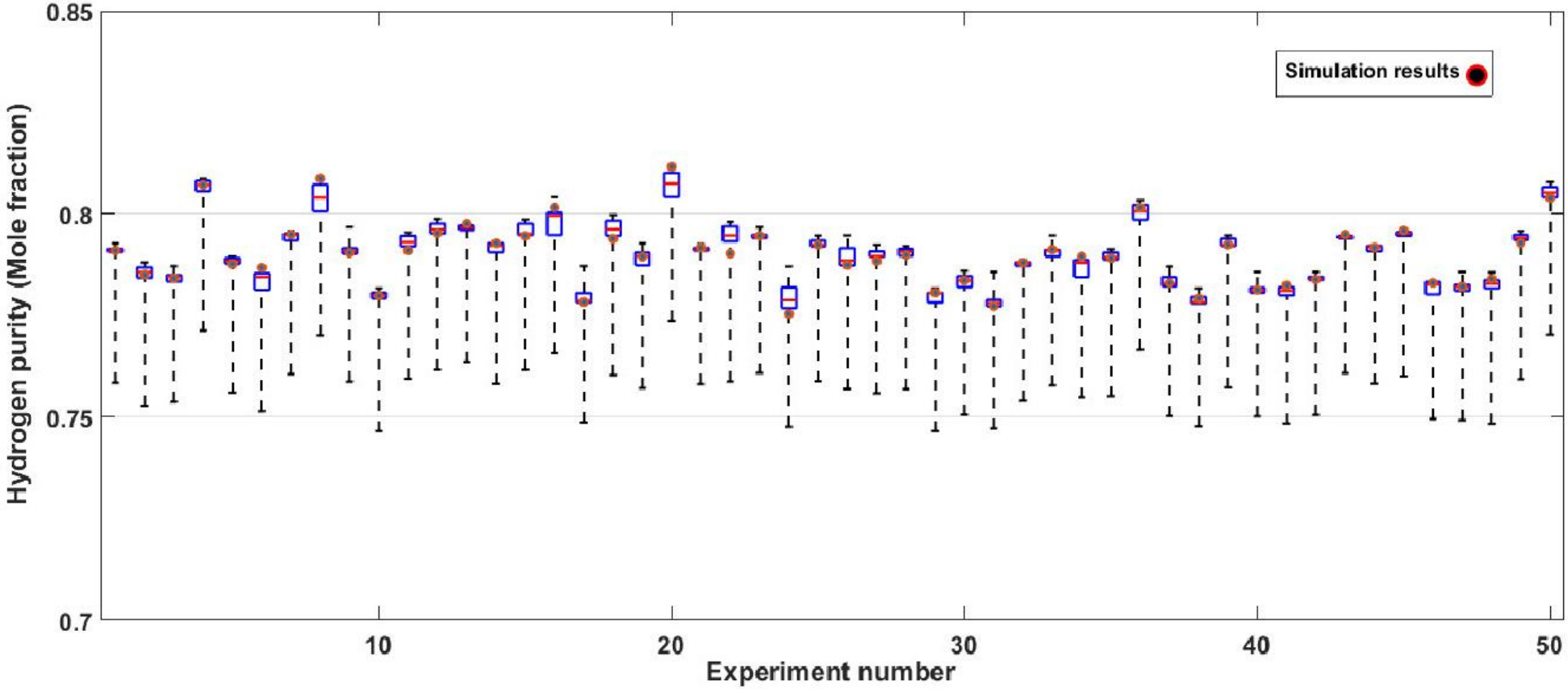

Figure S3 (Cont.): Simulation results and machine learning prediction results for hydrogen purity and hydrogen recovery factor.

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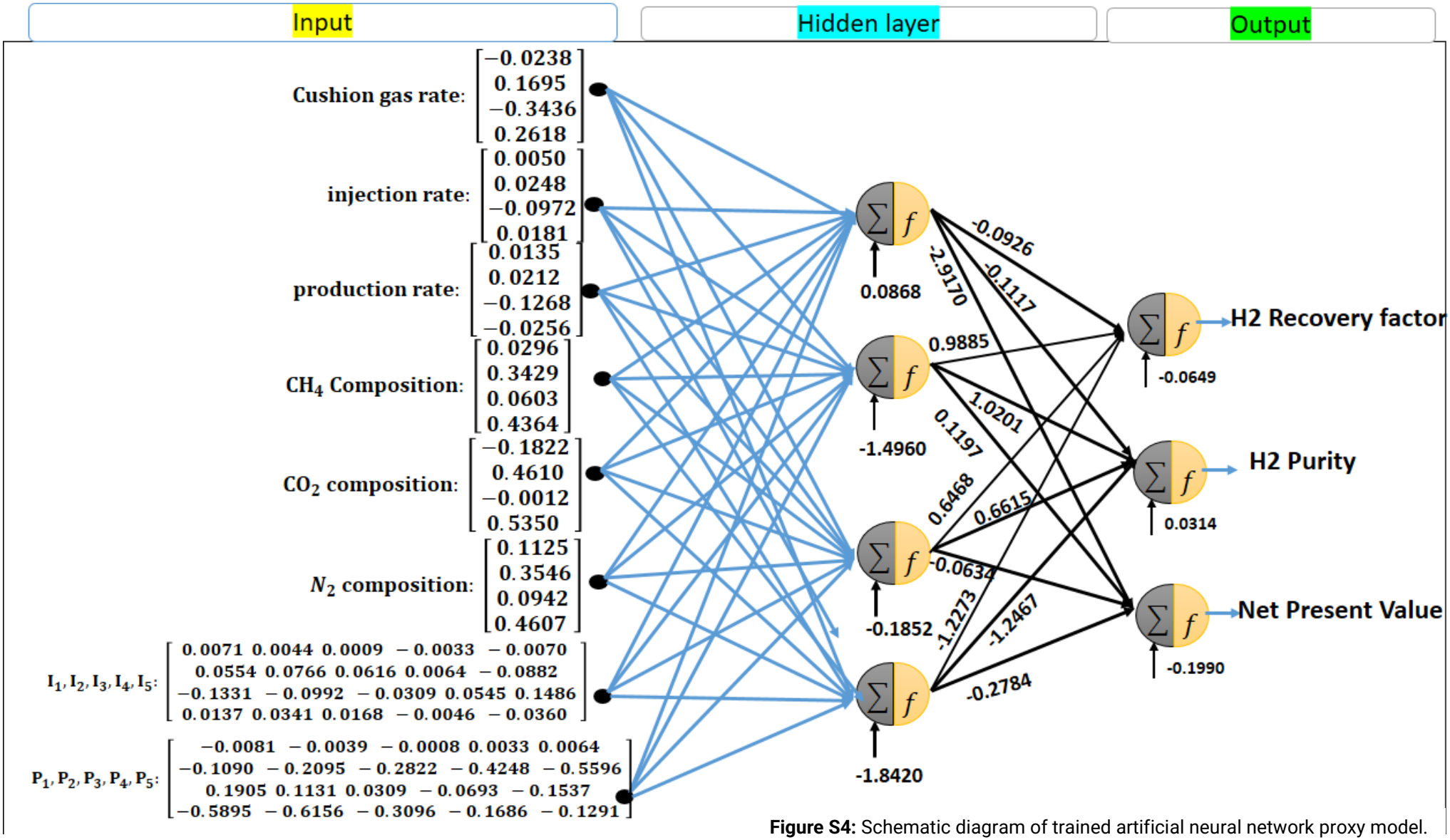

Figure S4: Schematic diagram of trained artificial neural network proxy model.

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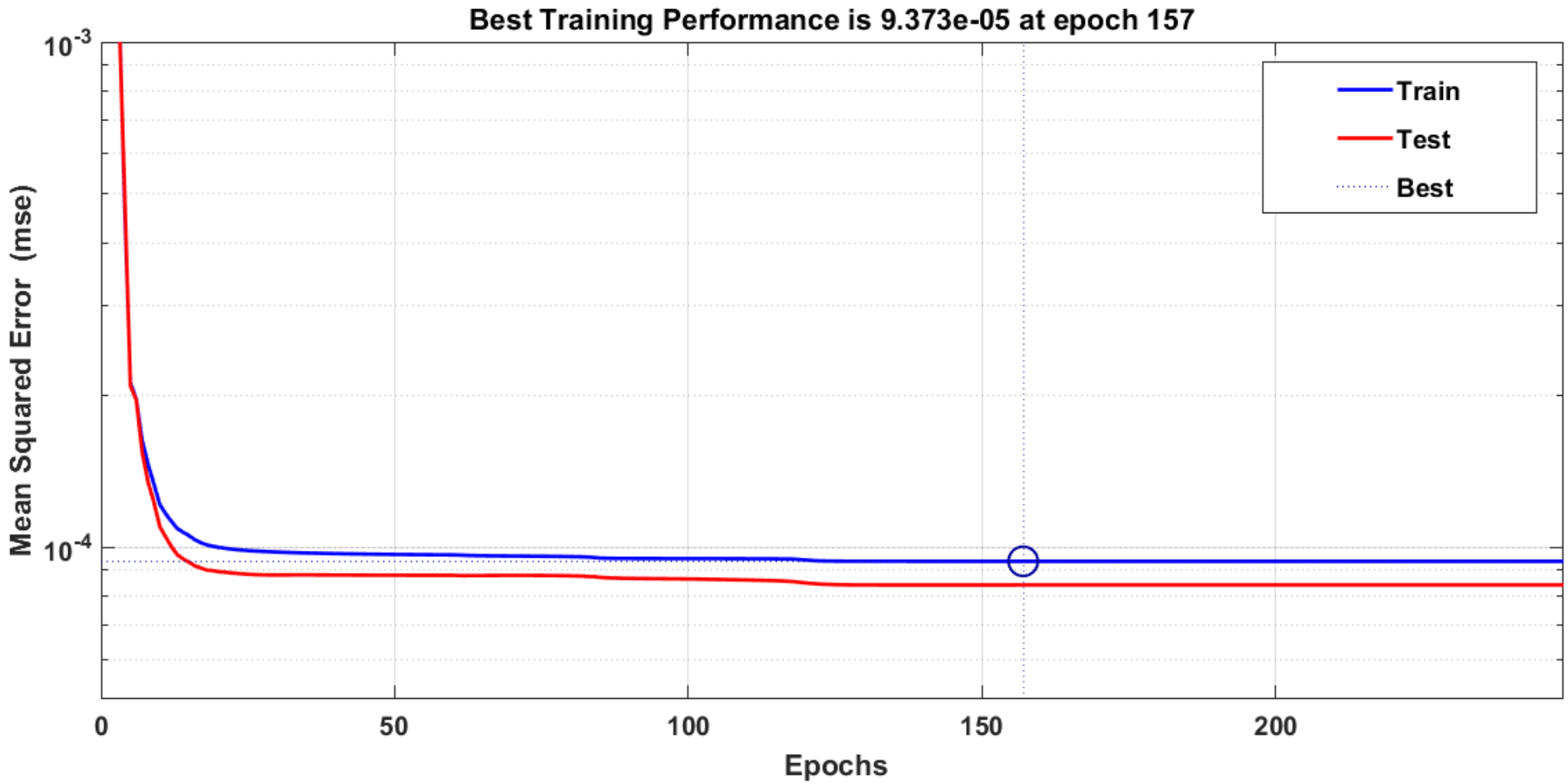

Figure S5: Training–testing loss (and accuracy) curves over successive epochs, artificial neural network model.

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