



J. Serb. Chem. Soc. 88 (10) S312–S315 (2023)

SUPPLEMENTARY MATERIAL TO
**Identification of organic compounds using artificial neural
networks and refractive index**

INNOCENT ABEL KIRIGITI¹, NANIK SITI AMINAH^{1*} and SAMSON THOMAS²

¹Department of Chemistry, Faculty of Science and Technology, Universitas Airlangga,
Surabaya 60115, Indonesia and ²Department of Chemistry, Faculty of Mathematics and
Natural Sciences, Universitas Indonesia, Depok 16424, Indonesia

J. Serb. Chem. Soc. 88 (10) (2023) 1013–1023

Table S-I. Accuracy scores for the developed ANNs

ANN Model (Per wavelength region)	Training Accuracy (%)	Validation Accuracy (%)	Testing Accuracy (%)
UV	60.00	59.00	59.00
UV - augmented data	82.59	76.73	81.49
Visible	73.33	70.76	69.22
Visible – augmented data	86.17	86.65	86.60
Near IR	98.62	98.58	98.44
IR	97.89	97.76	97.72
Far IR	86.81	83.79	84.09

* Corresponding author. E-mail: nanik-s-a@fst.unair.ac.id

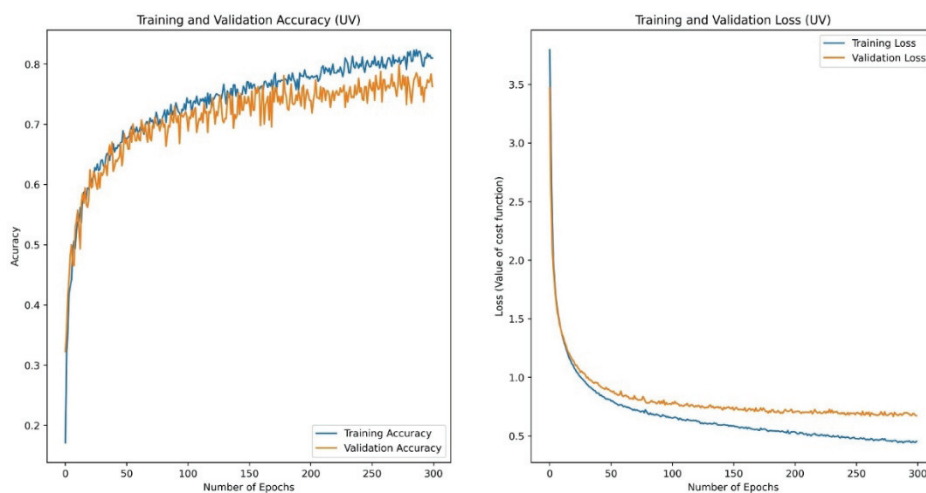


Fig. S-1. Training and validation for ANN model in UV region

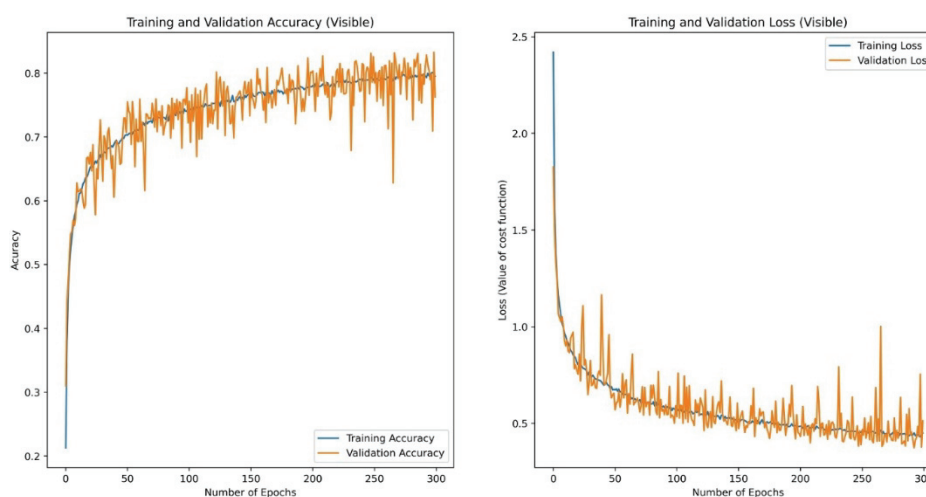


Fig. S-2. Training and validation for ANN model in UV (augmented)

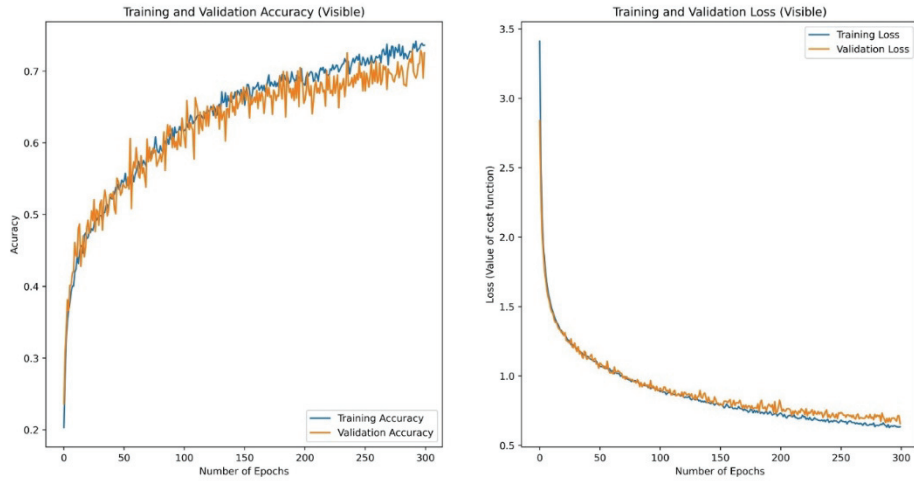


Fig. S-3. Training and validation for ANN model in visible region

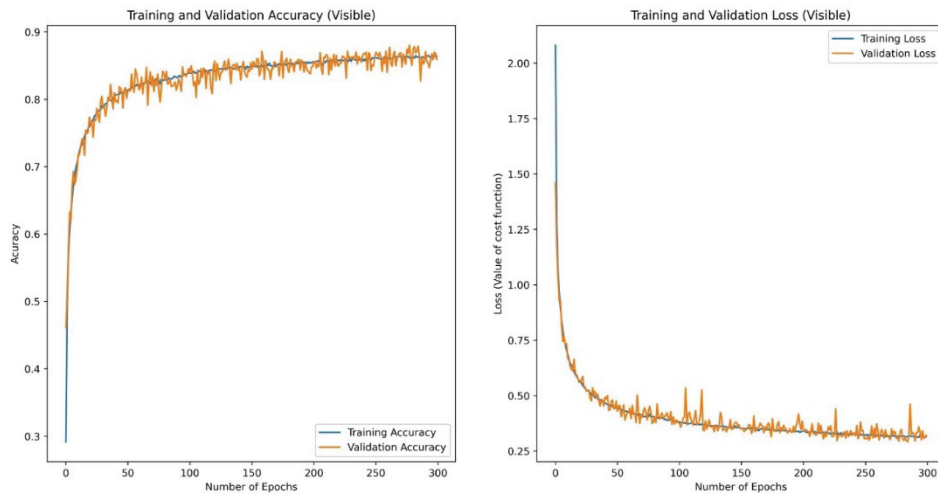


Fig. S-4. Training and validation for ANN model in visible (augmented)

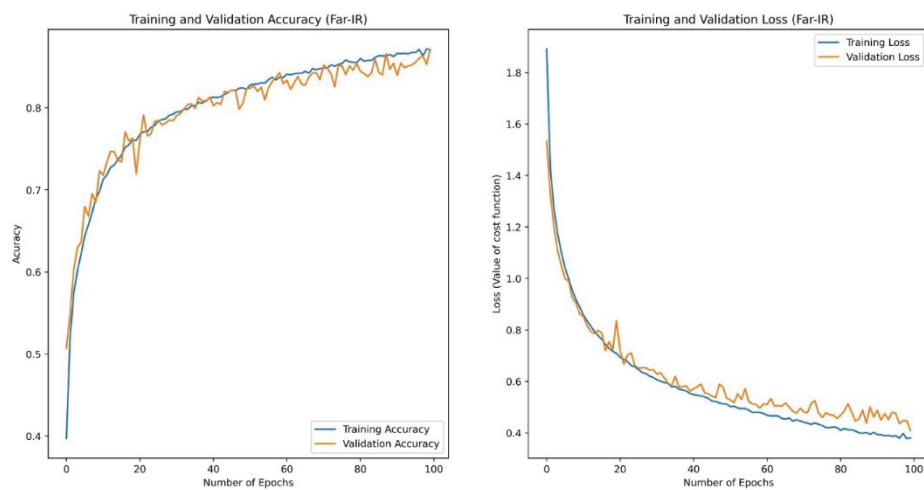


Fig. S-5. Training and validation for ANN model in far IR region.