Supplementary Information

Quantification of moisture in household plastic packaging waste using near-infrared hyperspectral imaging (NIR-HSI)

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Supplementary Information

Table S1. Material type and factor average for different plastic waste streams.

Material type	Factor average
PE film	0.81
PE rigid	1.30
PP rigid	3.49
PP film	1.32
PET	1.63
Others	0.85

Table S2. Average composition of 10 samples obtained from DRK-350 mixed plastic waste.

Material type	Fraction of the total mass (wt.%)	Definition
PE film	39.5	Polyethylene, film
PET tray	15.7	Polyethylene terephthalate, tray
PP rigid	10.0	Polypropylene, rigid
PP film	9.7	Polypropylene, film
PET bottle	7.8	Polyethylene terephthalate, bottle
Multilayer flexibles	5.7	Laminated materials made of multiple materials and layers
Compound	1.9	Mixture of different types of plastic materials
Other plastics	1.4	Plastics that do not fall into standard categories
PS	1.3	Polystyrene
Paper and cardboard	1.0	Fibrous materials made from wood pulp, used in packaging
Metals	0.6	Various metals, usually aluminium
Fines	0.5	Small particles, smaller than 0.5 cm^2
EPS	0.3	Expanded Polystyrene
Organics	0.2	Organic waste materials such as food waste, biogenics like wood

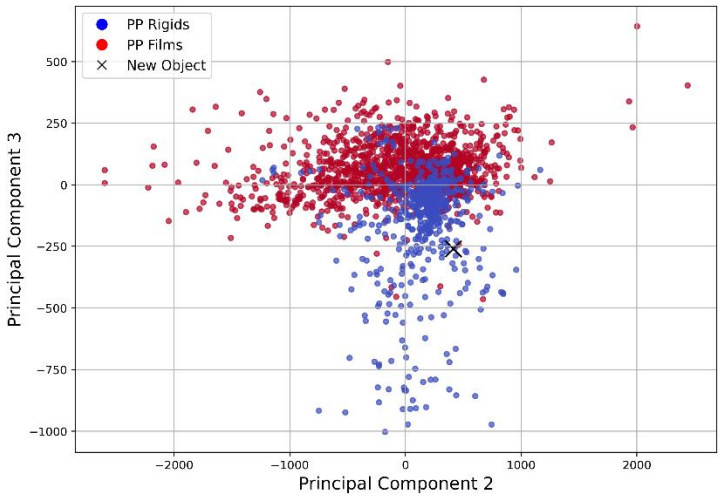

Figure S1. Second and third principal components as used for classification of PP objects.

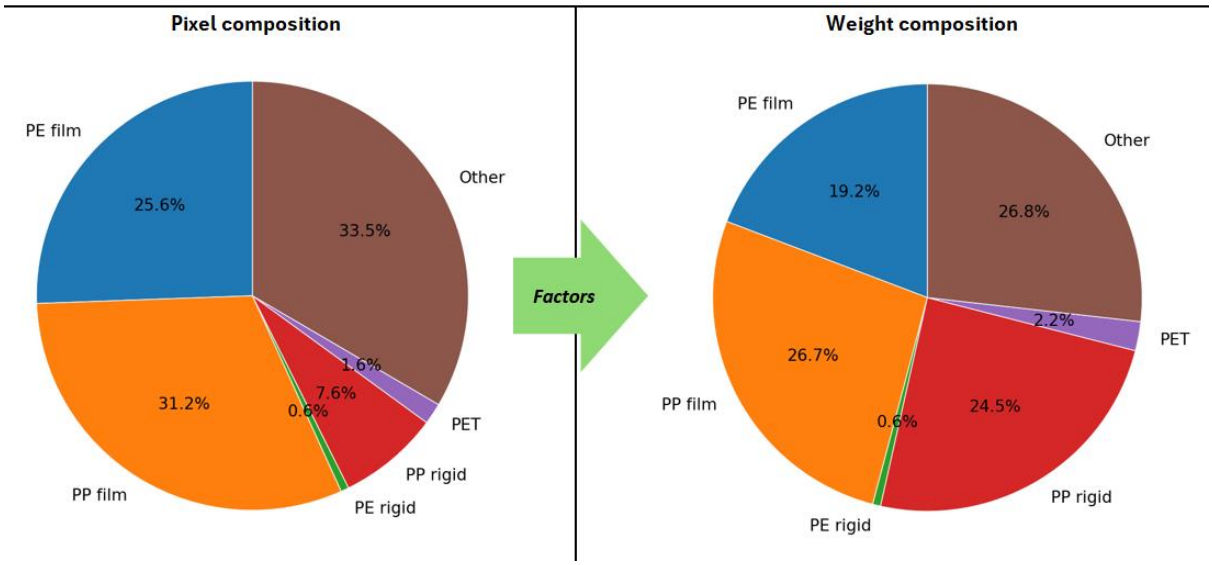

Figure S2. Comparison of pixel-based (left) and mass-based (right) composition of plastic waste types identified by NIR-HSI, obtained after applying conversion factors.

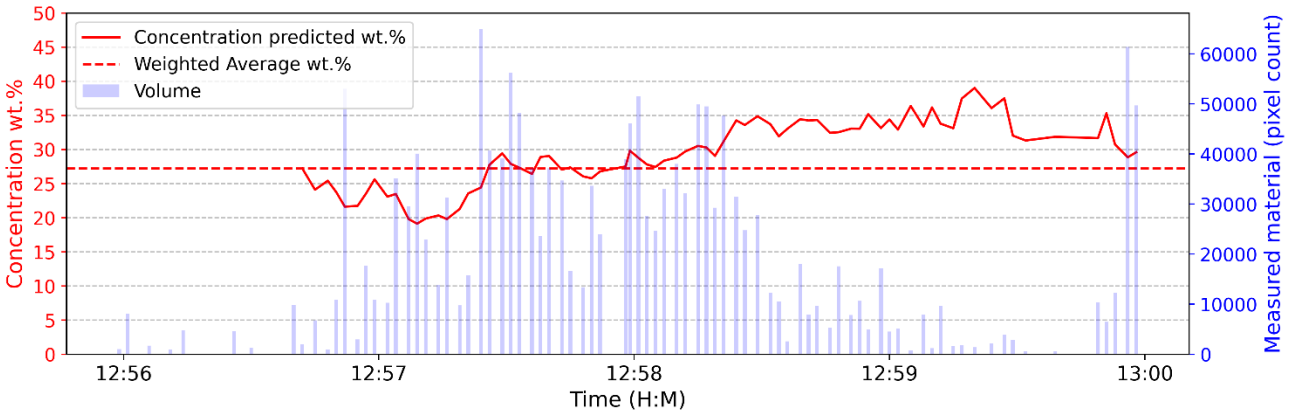

Figure S3. Time series of predicted moisture concentration in PE films (~10 kg) and material volume data. Red line represents the predicted moisture concentration (wt.%) over time, dashed line indicates the weighted average moisture concentration.

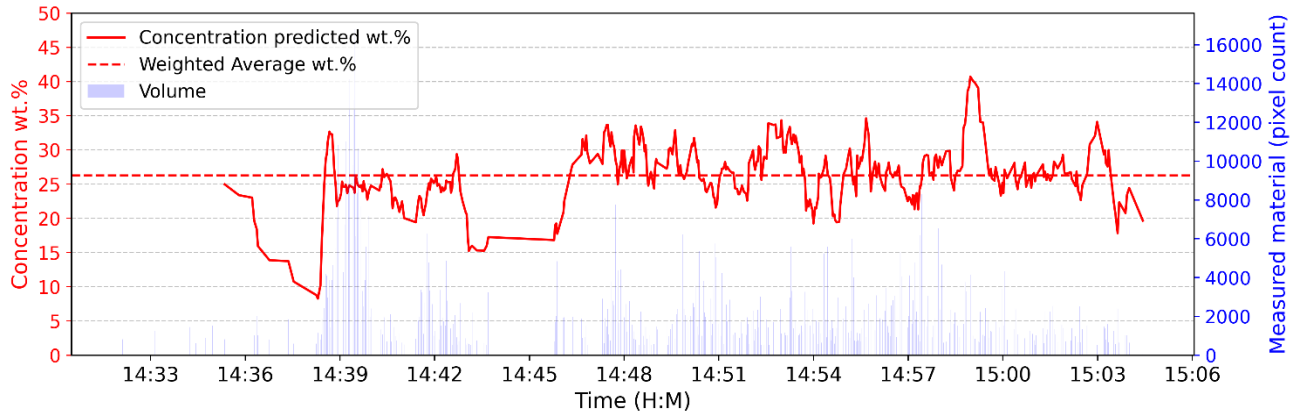

Figure S4. Time series of predicted moisture concentration in PP films (~30 kg) and material volume data. Red line represents the predicted moisture concentration (wt.%) over time, dashed line indicates the weighted average moisture concentration.

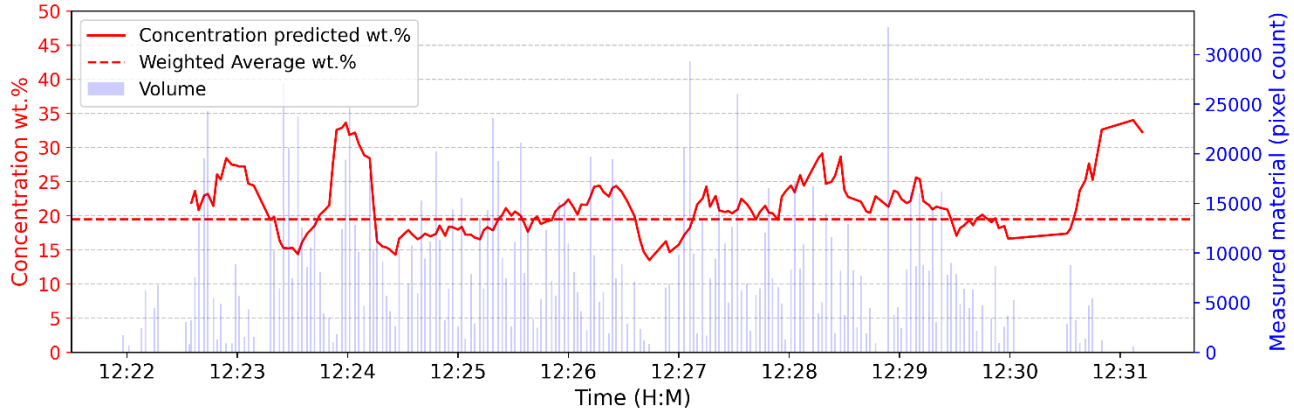

Figure S5. Time series of predicted moisture concentration in DKR-310 films/foils (~30 kg) and material volume data. Red line represents the predicted moisture concentration (wt.%) over time, dashed line indicates the weighted average moisture concentration.

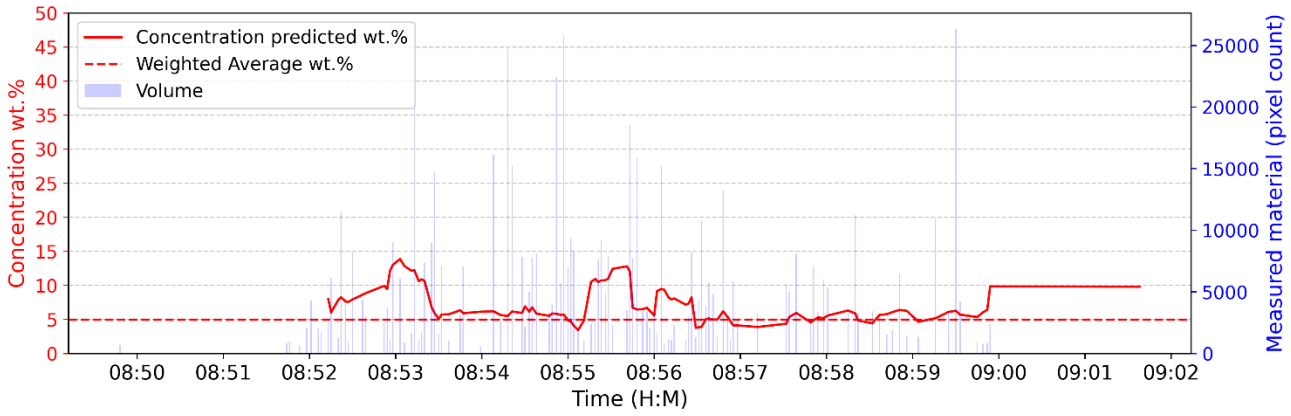

Figure S6. Time series of predicted moisture concentration in PE rigids (~50 kg) and material volume data. Red line represents the predicted moisture concentration (wt.%) over time, dashed line indicates the weighted average moisture concentration.

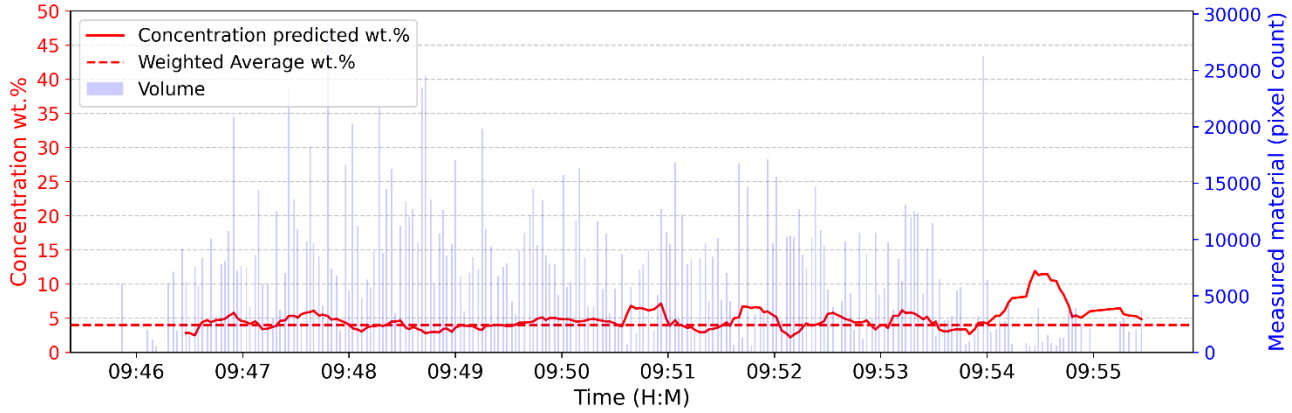

Figure S7. Time series of predicted moisture concentration in PP rigids (~50 kg) and material volume data. Red line represents the predicted moisture concentration (wt.%) over time, dashed line indicates the weighted average moisture concentration.

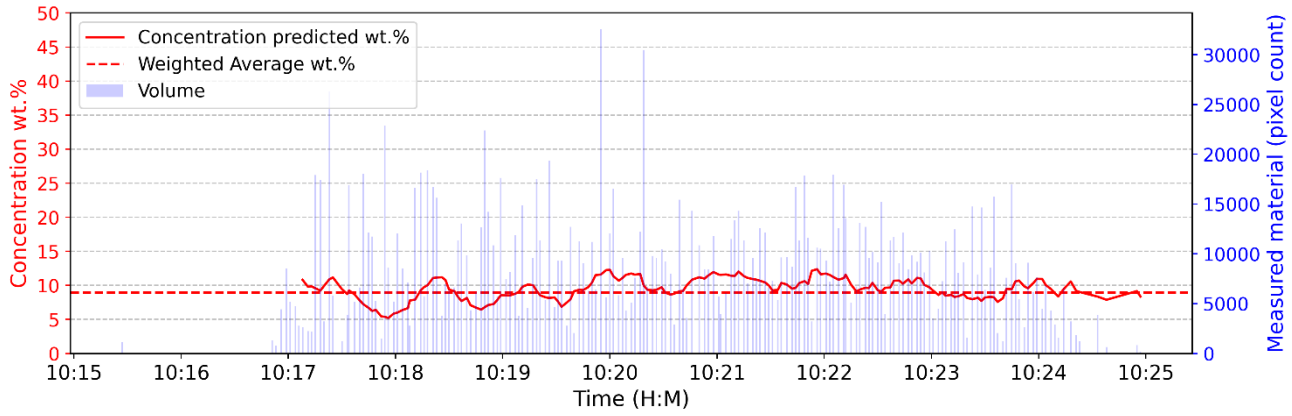

Figure S8. Time series of predicted moisture concentration in PET (~50 kg) and material volume data. Red line represents the predicted moisture concentration (wt.%) over time, dashed line indicates the weighted average moisture concentration.