

Supplementary Material Content

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Table S1. Parameters of the experimental water samples from the Yao River.

Project	DOC (mg/L)	pH	UV₂₅₄ (cm⁻¹)
Parameter	7.23 – 9.89	6.97 – 8.12	0.103 – 0.185

Table S2. Information on fluorescent peak position and indexes of the raw water from the Yao River.

Fluorescent peaks (indexes)	Definition	Position (Ex/Em)
Peak N	Unknown	280/370 nm
Peak D	Unknown	390/509 nm
Peak C	UVA humic-like	320–360/420–460 nm
Peak M	UVA marine humic-like	290–310/370–410 nm
Peak A	UVC humic-like	260/400–460 nm
Peak T	UVC protein-like	Ex/Em = 275/340 nm
Peak B	Tyrosine-like, protein-like	Ex/Em = 270/305 nm
BIX	Biological index	(310/380 nm)/(310/430 nm)
HIX	Humification index	(254/435–480 nm)/(254/300–345 nm+254/435–480 nm)
FreI	Freshness index	(310/380 nm)/(310/420–435 nm)
Flul	Fluorescence index	(370/470 nm)/(370/520 nm)

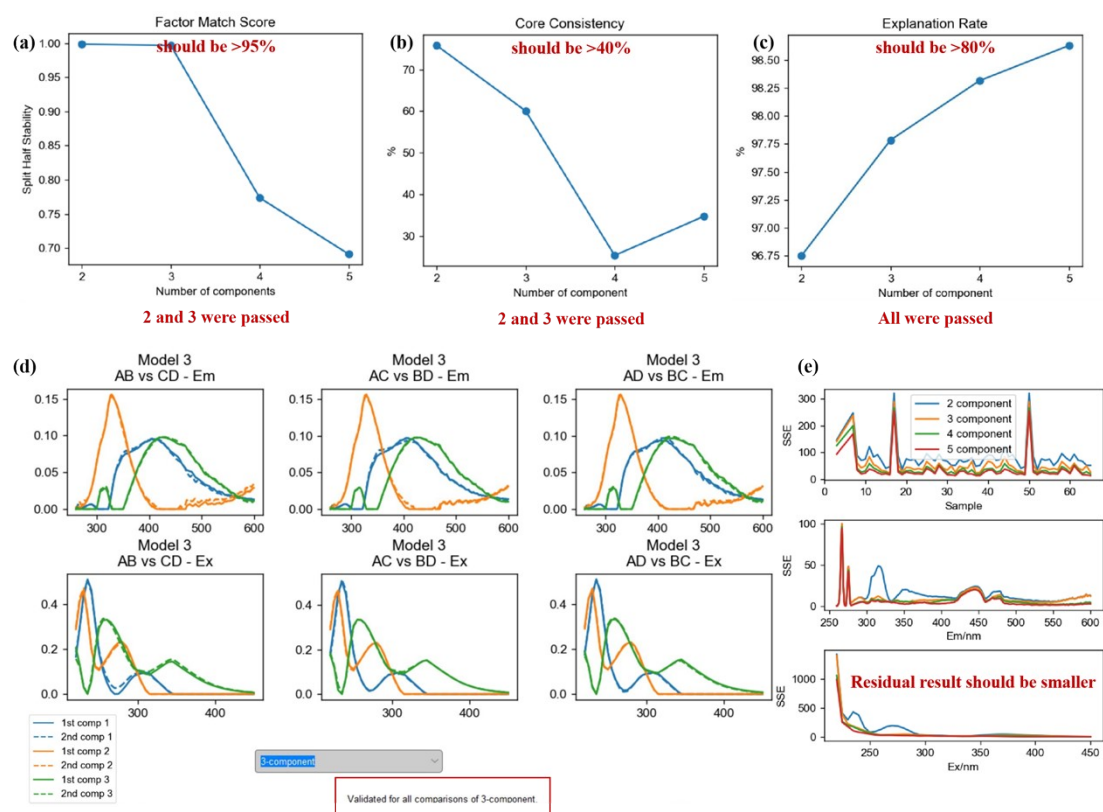


Fig. S1. Split-half analysis factor similarity score results (a and d), core consistency results (b), explanation rate results (c), and residual results (e) when using different component numbers in the PARAFAC process.

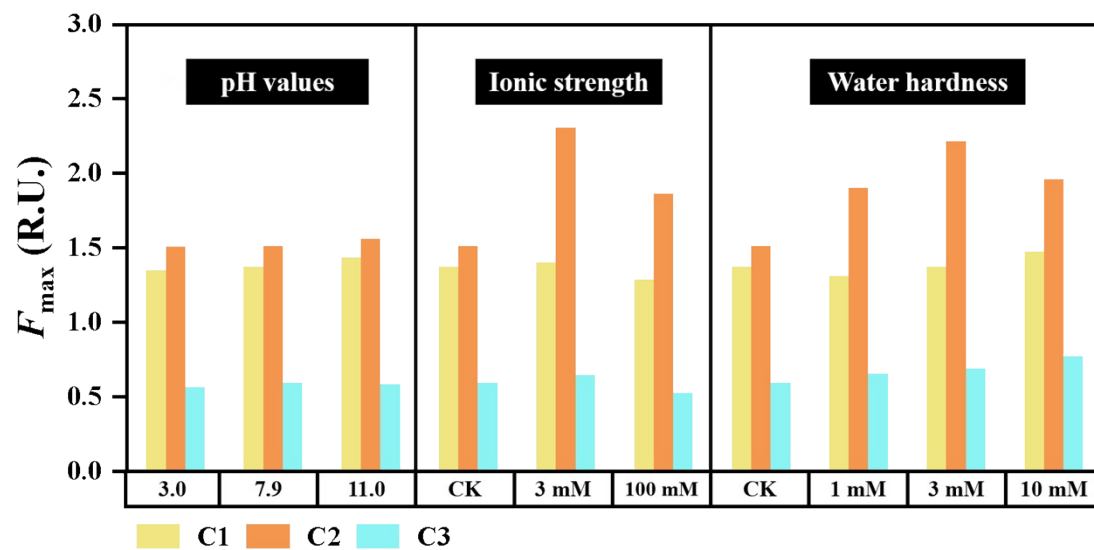


Fig. S2. F_{\max} values of the three components in the feed water before filtration after different water quality regulations, including the regulation of pH values, ionic strength, and water hardness.

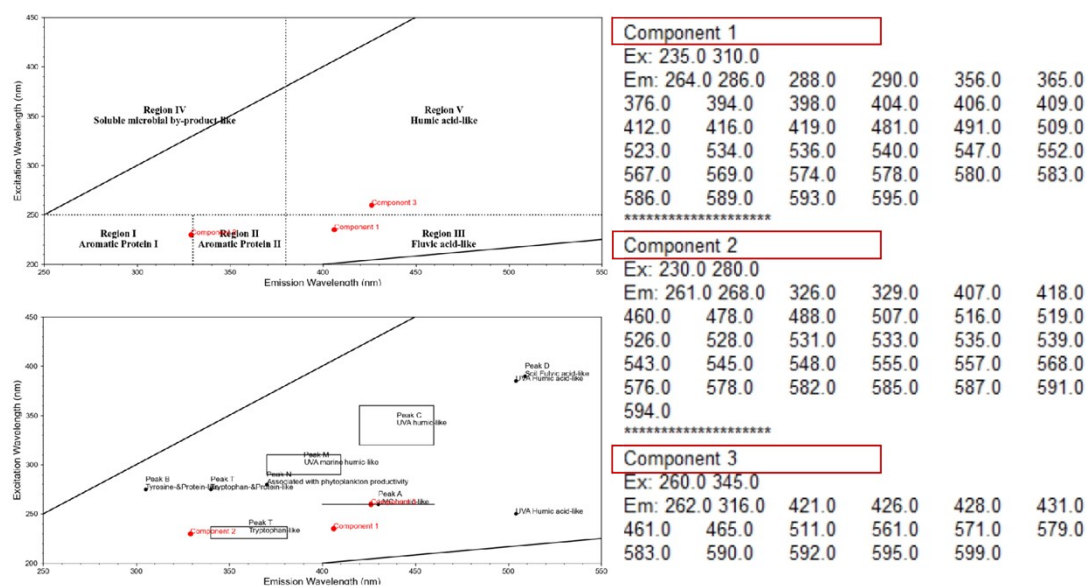


Fig. S3. Location of florescent peaks of the three components obtained by PARAFAC.