



Showcasing research from Professor Jiawei Chen's laboratory, School of Earth Sciences and Resources, China University of Geosciences (Beijing), Beijing, China.

Photoaging alters the aggregation behavior of functionalized nanoplastics differently: effects of leached organic matter and surface properties changes

This study elucidates the roles of photoaging-induced leached nanoplastics-derived dissolved organic matter (PDOM) and surface property changes in regulating polystyrene nanoplastics (PSNPs) aggregation behavior in mono-/divalent counterion solutions. Photoaging exerts divergent effects on negatively and positively charged PSNPs' stability via steric repulsion, cation bridging and electrostatic neutralization, etc. These findings provide novel mechanistic insights into the environmental transport and fate of functionalized PSNPs in aquatic systems.

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See Zhixiong Li, Jiawei Chen *et al.*, *Environ. Sci.: Nano*, 2026, **13**, 1406.