

Environmental Science: Advances

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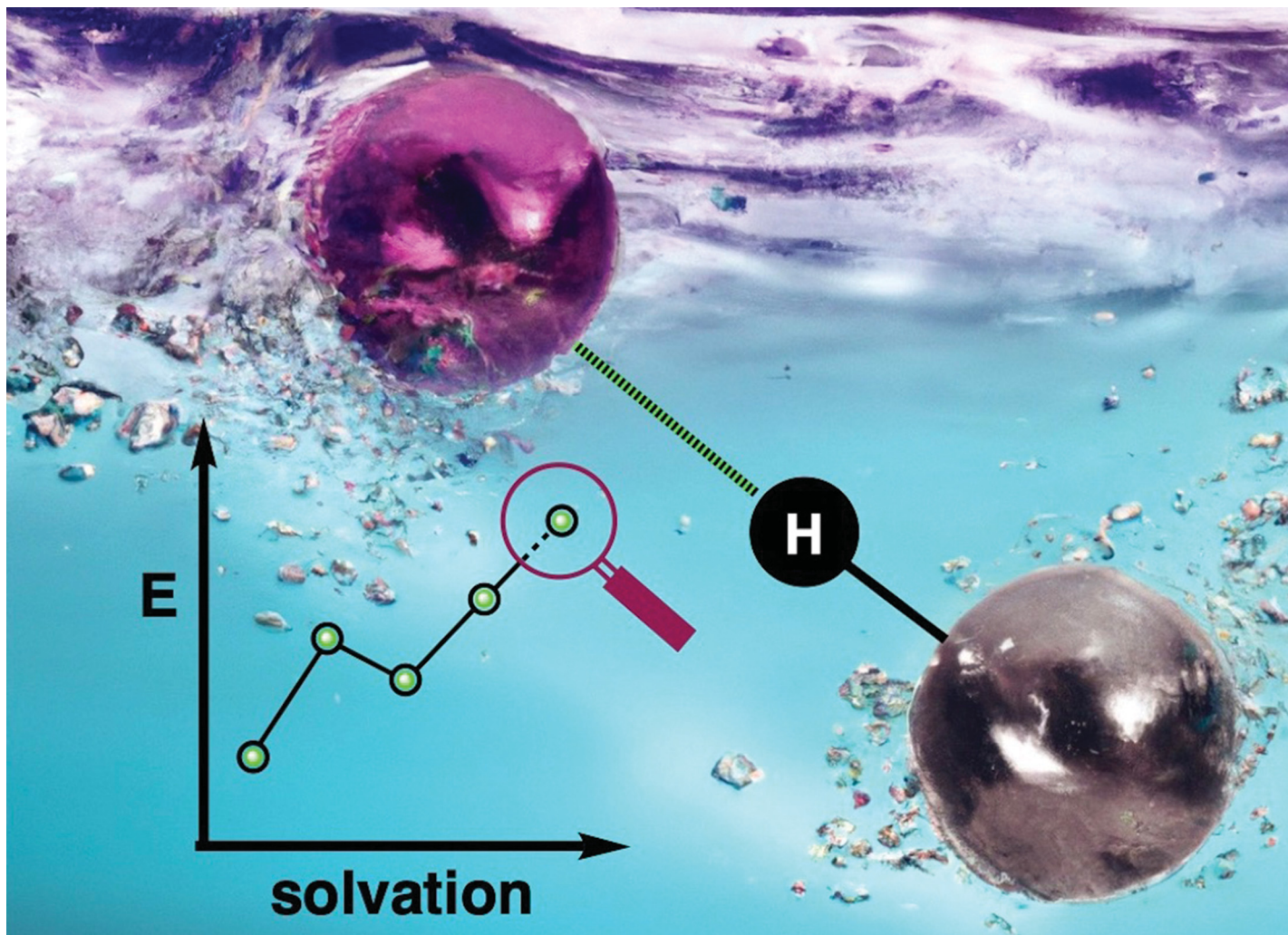
Uniting disciplines to solve
environmental challenges

APCs waived until mid-2024

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Fundamental questions
Elemental answers



Showcasing research from the Group of
Prof. Bright Emenike at State University of New York,
 Old Westbury, USA

Rationalizing hydrogen bond solvation with Kamlet-Taft
 LSER and molecular torsion balances

This study utilizes molecular torsion balances to quantify weak hydrogen bonds as a function of solvation with observed energies ranging from -0.99 to $+1.00$ kcal/mol. Fitting the experimental data to Kamlet-Taft's solvation model partitioned the hydrogen-bond strengths into solvent physical parameters. The result revealed solvents' electrostatic term as the dominant term, indicating the importance of electrostatic interactions in hydrogen bonding. However, the contributions from solvents' nonspecific parameters (e.g., dispersion) are notable.

As featured in:



See Bright U. Emenike *et al.*,
Phys. Chem. Chem. Phys.,
 2023, **25**, 17808.