



Showcasing research from Professor Sangmin Jeon's laboratory, Pohang University of Science and Technology (POSTECH), Pohang, Gyeongbuk, Republic of Korea.

Synergistic effect of a berlin green framework for highly efficient moisture-electric energy transformation

We developed a novel moisture-induced power generator (MPG) utilizing Berlin green (BG) for enhanced moisture-electric energy transformation (MEET) performance. The MPG device features a bilayer structure with a BG/graphene oxide/cellulose nanofiber composite layer on NaCl/cellulose nanofiber composite layer. Moisture adsorption triggered the dissociation and spontaneous diffusion of sodium ions, generating electricity. Furthermore, the insertion of sodium ions into the BG framework reduced BG to Prussian blue, generating additional electricity. This synergistic interplay resulted in excellent MEET performance: 1.17 V and 2770 $\mu\text{A cm}^{-2}$ at 90% relative humidity.

As featured in:



See Sangmin Jeon *et al.*,
Energy Environ. Sci., 2024, 17, 5421.