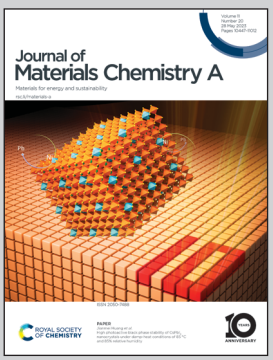
Showcasing research from Professor Jun He's laboratory, School of Chemical Engineering and Light Industry, Guangdong University of Technology, Guangzhou, China.

MOF-based colorimetric sensor for rapid and visual readout of trace acetylene

A colorimetric sensor for rapidly visual detection of C_2H_2 with high sensitivity and selectivity is achieved based on MOF-analyte chemical reactivity. Specifically, the UiO-68-SMe-Pt crystals were prepared by crystallization of UiO-type crystals with thiomethyl pendants and postsynthetic installation of Pt. These MOF crystals displayed remarkable color change upon exposed to C_2H_2 in various matrices, which can be identified by naked eyes within 15 s. Their color change of UiO-68-SMe-Pt arises from the Pt-driven C_2H_2 polymerization, which is fundamentally different from the working principles of previous colorimetric MOF sensor.

As featured in:



See Weihui Ou, Jun He *et al.*, *J. Mater. Chem. A,* 2023, **11**, 10577.

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