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Unique Features of XEMIS Demonstrated by Latest MOF Research

In a paper published recently in *Advanced Materials*, the unique capabilities of the Hidden Isochema XEMIS sorption analyzer were used to investigate gas separation by a novel metal-organic framework (MOF)¹. Such materials are candidates for selective removal of harmful sulfur dioxide (SO₂) from combustion flue gases, to improve air quality and reduce the risks to human health posed by air pollution.

The article reports the uptake of N₂, CO₂ and SO₂ over a very wide range of equilibrium pressures, from 3 mbar to 180 bar, on small (research-scale) samples of MFM-300(In), a functionalized and robust indium and carboxylate-based MOF. This work would not have been possible without the functionality, flexibility and accuracy provided by the XEMIS.

Dr Sihai Yang, Lecturer in Inorganic Chemistry at the University of Manchester and one of the lead authors, said: "It is very important to capture toxic flue gases for the development of a sustainable environment. MFM-300(In) has shown excellent performance in the selective adsorption of SO₂, one major harmful component from flue gas. A solid collaboration between Manchester, Peking, Hidden Isochema and UK/EU/US national facilities was vital to the success of this project. "



For further information please contact info@hiddenisochema.com or your local Hidden Isochema representative.

[1] Savage, M., Cheng, Y., Easun, T. L., Eyley, J. E., Argent, S. P., Warren, M. R., Lewis, W., Murray, C., Tang, C. C., Frogley, M. D., Cinque, G., Sun, J., Rudić, S., Murden, R. T., Benham, M. J., Fitch, A. N., Blake, A. J., Ramirez-Cuesta, A. J., Yang, S. and Schröder, M. (2016), Selective Adsorption of Sulfur Dioxide in a Robust Metal–Organic Framework Material. *Adv. Mater.*. doi:10.1002/adma.201602338

About Hidden Isochema

Hidden Isochema is recognized as an established leader in sorption instrumentation with over 20 years' experience in sorption analyzer design and development. Hidden Isochema's gravimetric sorption analyzers are installed in hundreds of high profile academic and industrial R&D labs worldwide. They are used for a diverse range of applications from materials characterization in the pharmaceutical industry to the analysis of the catalysts used in petrochemical refining. We offer a range of fully automated gravimetric and manometric sorption analyzers, dedicated breakthrough analyzers and unique climate control systems.

For further information on this or any other Hidden Isochema product contact Hidden Isochema at info@hiddenisochema.com or visit www.hiddenisochema.com

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