



Contribution ID: 37

Type: oral presentation

An Fe-azole based chemosensors for detection of gas- and vapor-phase analytes

Tuesday, 4 July 2017 18:10 (20 minutes)

There is currently a huge appeal for “chemosensors” based on metal–organic frameworks (MOFs) for the sensitive and selective detection of gas- and vapor-phase analytes for a range of applications including chemical threat alerts, medical diagnostics, and environmental monitoring. Here, We have developed a simple colorimetric molecular sensor that detects a wide range of volatile analytes and then applied it to the detection of toxic gases. The sensor consists of a mononuclear complex, $[\text{Fe}(\text{trz-tet})_2(\text{H}_2\text{O})_4] \cdot 2\text{H}_2\text{O}$, with a FeN_2O_4 chromophore with monodentate triazole coordination that can be changed by diverse chemical interactions with analytes. The colour change for the sensor is a unique molecular fingerprint. Clear differentiation among 6 different chemicals, including 4 toxic industrial chemicals (TICs) within two minutes of exposure under vapor diffusion.

Primary author: Dr GUO, Yunnan (UNIVERSITÉ CATHOLIQUE DE LOUVAIN)

Co-authors: Dr DIRTU, Marinela M. (UNIVERSITÉ CATHOLIQUE DE LOUVAIN); Prof. GARCIA, yann (UNIVERSITÉ CATHOLIQUE DE LOUVAIN)

Presenter: Dr GUO, Yunnan (UNIVERSITÉ CATHOLIQUE DE LOUVAIN)

Session Classification: Multifunctional Materials I

Track Classification: Molecular magnets and nanomagnets