

547 - Microporous ferrocene-based polymers and polymer networks

Jens Weber, jens.weber@mpikg.mpg.de, Baris Kiskan. Department of Colloid Chemistry, Max Planck Institute of Colloids and Interfaces, Potsdam-Golm, Germany

Microporous materials, i.e. materials having pore sizes smaller than 2 nm, which are based on purely organic precursors have attracted considerable scientific interest due to applications in the fields of gas storage, gas separation, and heterogeneous catalysis.

Here, we report on the preparation and analysis of metal-organic microporous polymers (MO-MP) based on ferrocene. Even though ferrocene was first discovered 60 years ago, research on ferrocene-containing compounds is still going on vividly due to applications within catalysis, sensing and materials science. Its redox properties, i.e. the possibility of switching the oxidation state of iron in combination with the high specific surface area might enable a variety of target application, e.g. heterogeneous catalysis or sensing.

Various attempts to prepare linear as well as crosslinked metallopolymers will be reported. Linear polymers will be prepared by application of the PIM principle, i.e. the use of kinked monomers.

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