



## WATER FILTRATION EFFICIENCY OF MIL-100(Fe) METAL ORGANIC FRAMEWORK IMMOBILIZED ON NANOFIBROUS MEMBRANE

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Developing a highly porous filter membrane composed of metal-organic frameworks (MOFs) draws attention as the remediation of water contamination. Herein, a highly porous MIL-100(Fe) was grown on polyacrylonitrile (PAN) electrospun nanofibers was constructed through a hydrothermal synthesis. The MIL-100(Fe) grown membrane showed a high capacity of foulants removal efficiency of 90 % attributed to two distinct mechanisms, adsorption, and photodegradation. The nature of hydrophilicity of MIL-100(Fe) and large surface area led to a great amount of adsorption of water-soluble organic contaminants, and the adsorption was regenerated to an extent by a simple cleansing procedure with ethanol. Immobilized MIL-100(Fe) on the surface of nanofibers manifested the photocatalytic degradation of organic pollutants under visible light irradiation which corresponds to its low bandgap energy. Thus, this photocatalytic and adsorptive nanofibrous filter membrane composed of MIL-100(Fe) with high recyclability can be great remediation of water contamination.