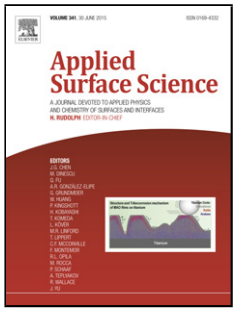

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The growth of high density network of MOF nano-crystals across macroporous metal substrates - solvothermal synthesis versus rapid thermal deposition

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Highlights

- Metal supported MOF membranes are efficiently fabricated using rapid thermal deposition.
- The membranes exhibit high gas permeation in the order of x 10^{-6} $mol.m^{-2}.s^{-1}.Pa^{-1}$.
- The high permeance is attributed to the high void volume across the macroporous metal supports.
- The membranes exhibit Knudsen selectivities for He/N_2, Ar/N_2 and CO_2/N_2.