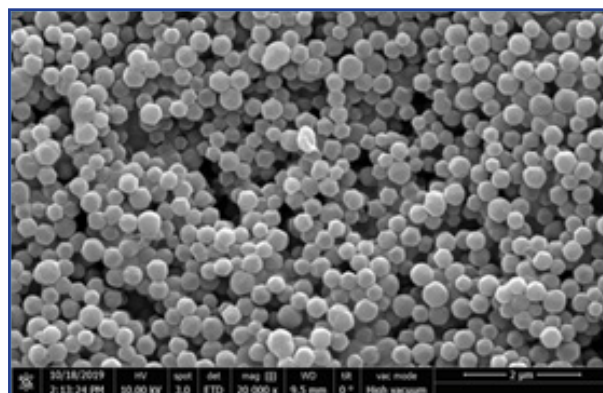
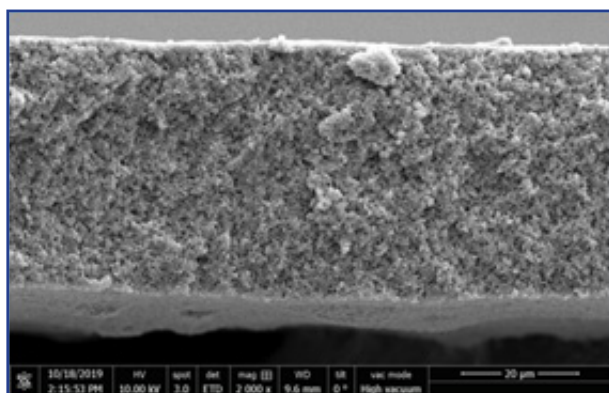
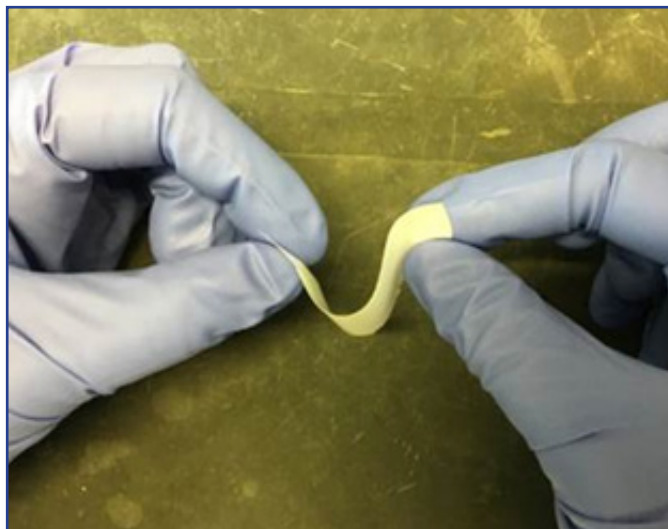


**40-1125 • UiO-66 MMM** is a MOF that is incorporated into polymer mixed-matrix membrane (MMM) with ~60 wt% UiO-66 MOF loading. MMM is prepared from polyvinylidene difluoride (PVDF), which acts as an effective binder for MOF, while still allowing the pores to be permeable and accessible to adsorbates <sup>[1-2]</sup>.

The MOF/PVDF films form homogeneous layered structures after drying, giving durable, large-area, freestanding MMMs with good mechanical stability and flexibility. Characterization of the films showed that the MOFs are highly crystalline and remain porous within the MMM (**BET surface area: ~1400 m<sup>2</sup>/g**)

**UiO-66 MMM** allows further chemical modification through postsynthetic modification and postsynthetic exchange processes.



SEM images of UiO-66 MMM (~60 wt%) with cross-section and plane-view

**UiO-66 MMM** is resilient to mechanical stress and can be easily handled in ambient conditions using nitrile gloves (recommended). The long-term storage (>1 week) should be performed under moisture-free conditions. The **UiO-66 MMM** is light- and dry-air-stable.

### References:

1. *Angew. Chem. Int. Ed.* **2015**, *54*, 9029
2. *Chem. Sci.*, **2016**, *7*, 2711

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