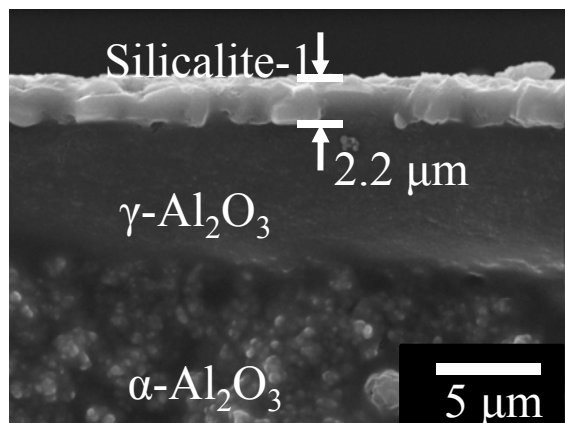
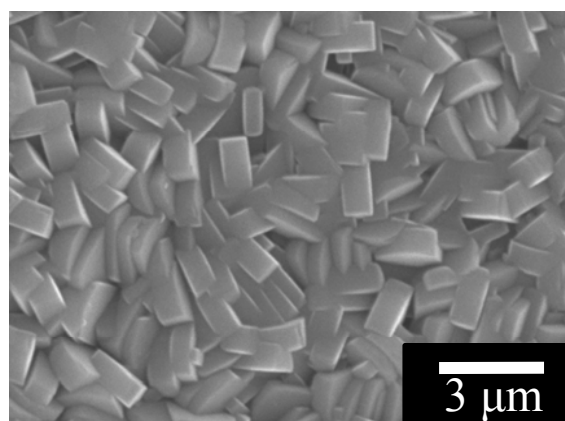


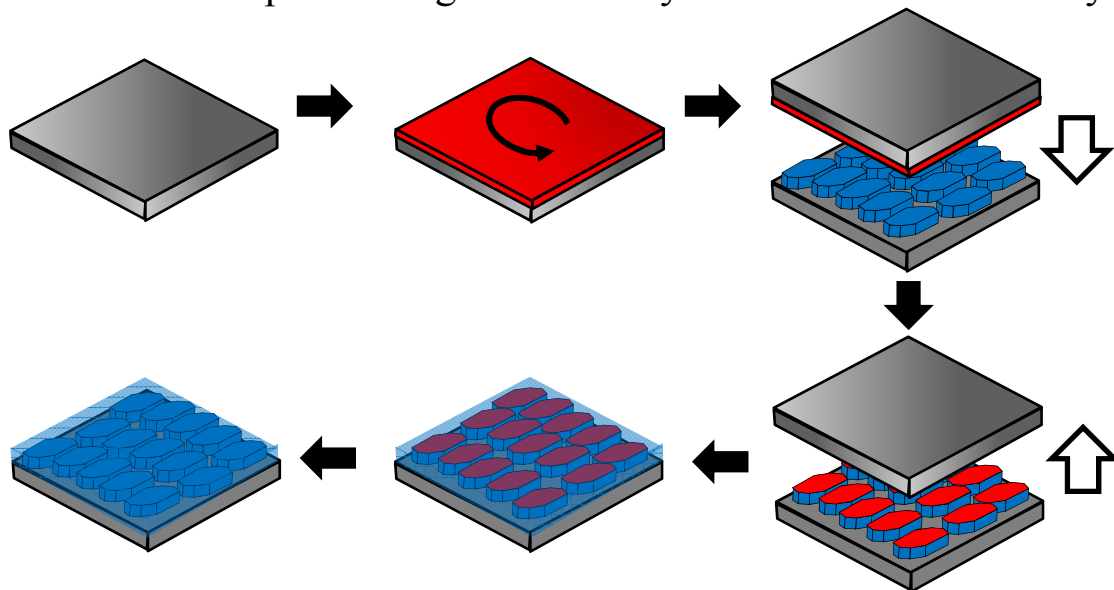
Understanding the Interface between Nanoporous Inorganic Materials and Polymer for Organic-Inorganic Composite Gas Separation Membranes

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- Model zeolite films prepared on Si with our new "micro-tile-and-mortar-joint" method vs. conventional method, showing a drastically different surface morphology



1. PDMS stamp 2. Organosilane layer 3. Transfer of the layer



6. Calcination 5. Secondary growth 4. PDMS lift-up

- A self-assembled silane monolayer was used as a passivation layer to prevent the out-of-plane growth, resulting in the oriented films and membranes with better grain boundary structure.