

Supplimental Section for

**Patterning micron-sized features in a cross-linked poly(acrylic acid) film by a wet
etching process**

Adam Winkleman, Raquel Perez-Castillejos, Michal Lahav, Max Narovlyansky, Leonard

N. J. Rodriguez, and George M. Whitesides*

*corresponding author

Figure S1:

A schematic representation illustrating a CCL-PAA film that has been either under-etched or over-etched.

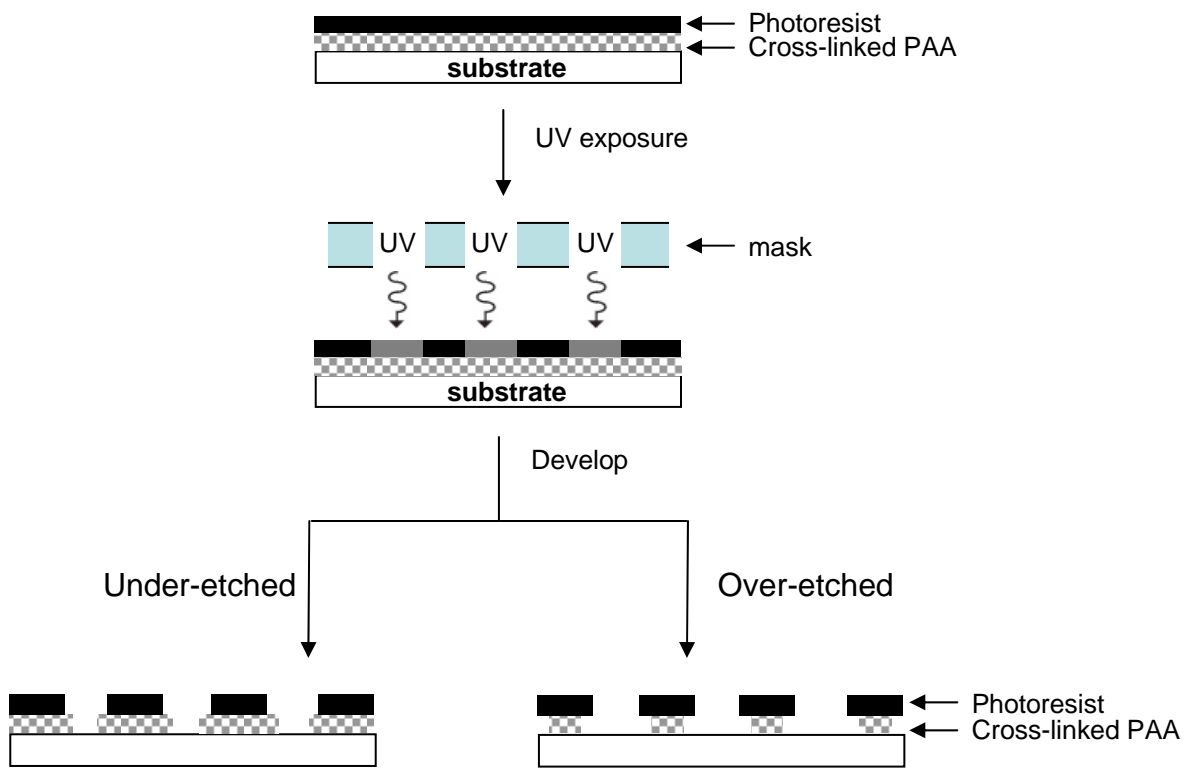


Figure S2:

A series of optical, AFM, and SEM images that illustrate at high resolution the roughness of the edges of the patterned CCL-PAA and low-k dielectric substrate. A-B) Edges from patterned CCL-PAA/Al³⁺ and CCL-PAA/Ca²⁺ films that used a photoplotting transparency mask similar to those of Figure 2B and 2C, respectively. C) An AFM image of the edge from a set of 1- μ m lines that used a chrome photomask and a CCL-PAA/Al³⁺ film (a high resolution image of Figure 2D). D) A fluorescent image of the edge roughness after cation exchange with DAH. E) Edge roughness of an aluminum oxide film after ozonation; the processing appears not to alter the edge roughness of the structure.

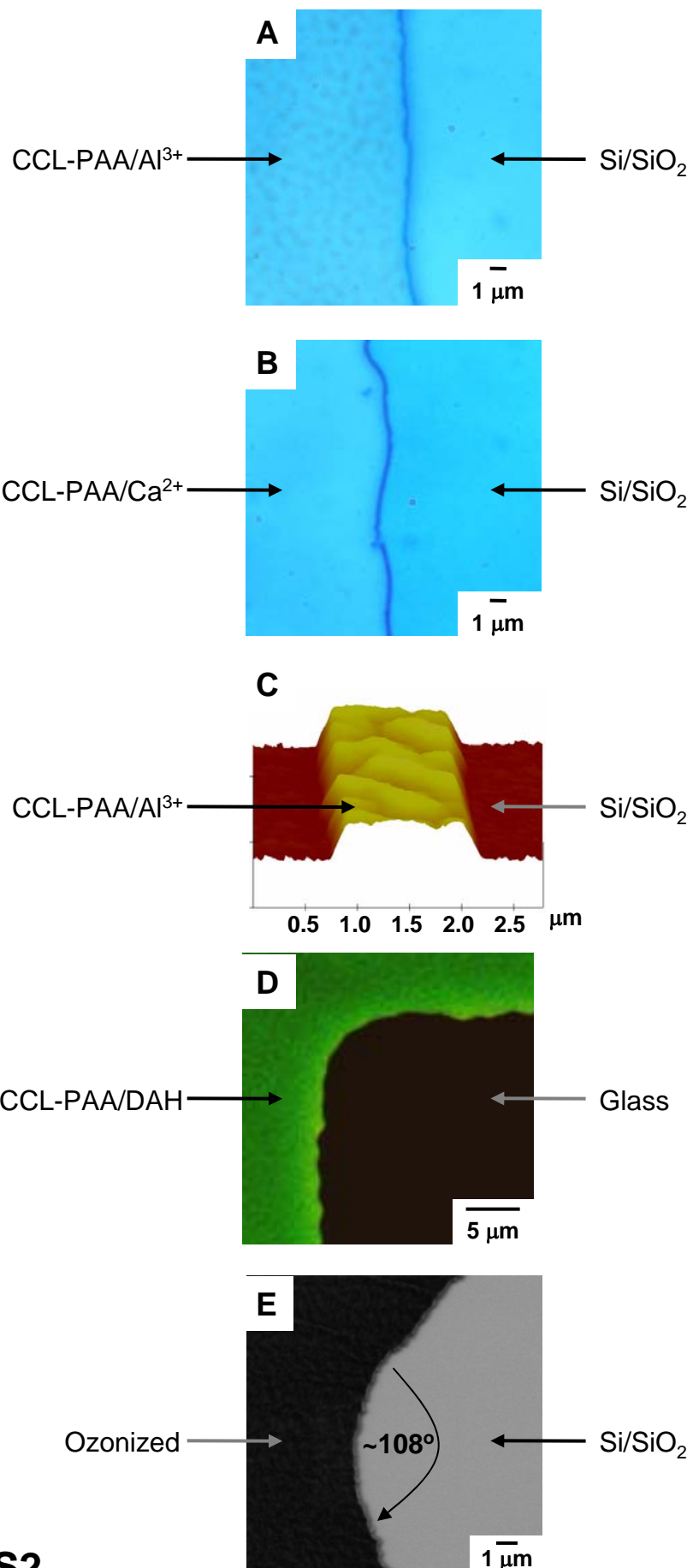


Figure S2

Figure S3:

A TEM image showing Ag nanoparticles embedded in a CCL-PAA/Ag⁺ matrix. The inset shows a typical particle with a diameter of ~ 3 nm.

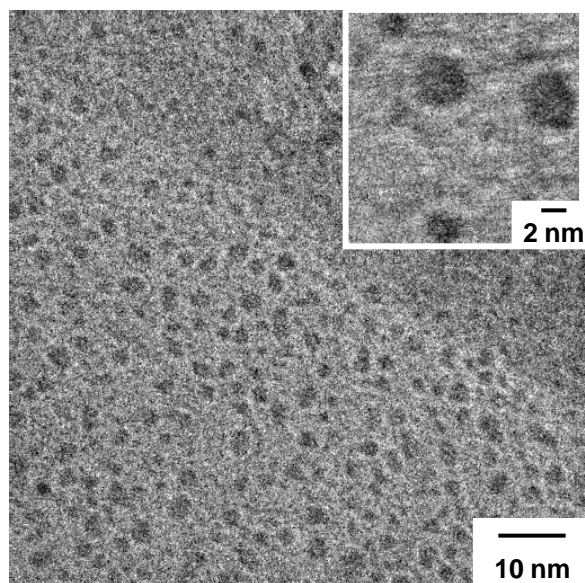


Figure S3