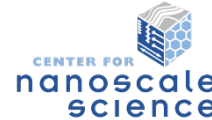
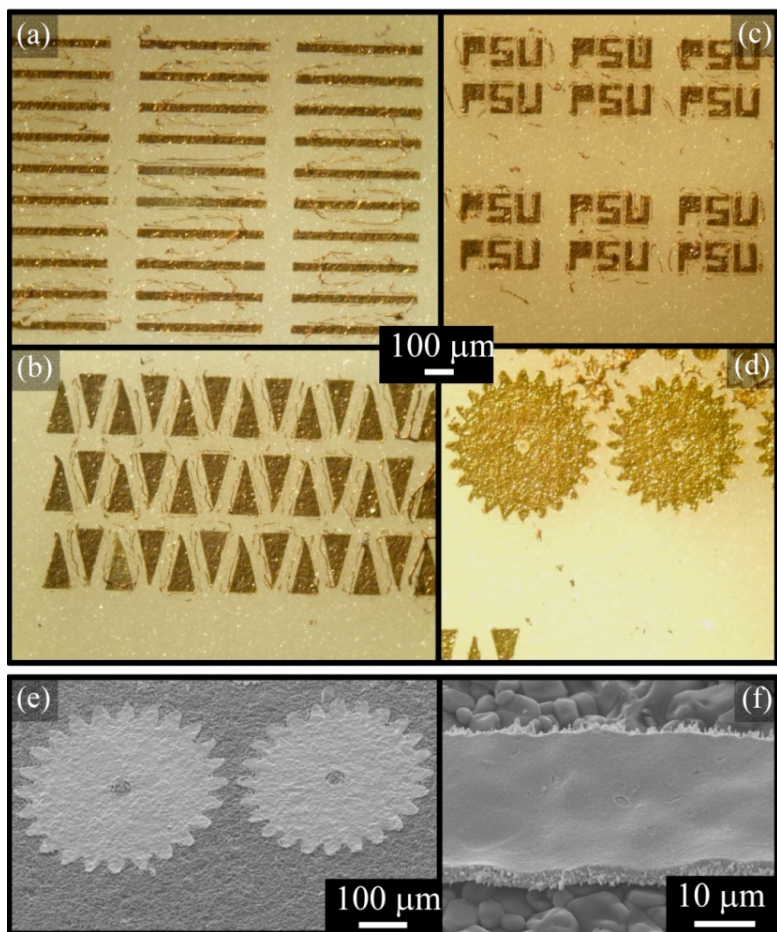


Benchtop Processing: Nanoparticle-Enabled Fabrication of Mesoscale Metallic Components



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Versatility in size, shape, composition for biomedical applications



Lithographic molding can produce complex microscale objects with precise control over shape and size with as many as 10,000,000 ‘devices’ from a single wafer mold. However, the materials from which such objects can be made have been limited to polymers and some simple oxides. Using metal nanoparticles in a lost-wax process, MRSEC researchers have now fabricated noble metals in a variety of shapes by infiltration into microcavity molds. The approach could be extended to other kinds of nanoparticle building blocks, including those designed to deliver drugs, target cancer, and sense disease states in biomedical applications.