# Introduction of flow lithography and versatile applications

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Precisely shaped polymeric particles and structures are widely used for applications in photonic materials, MEMS, biomaterials and self-assembly. Flow lithography is a high-throughput micro structure fabrication technique using microscope projection photolithography. This high-throughput technique offers unprecedented control over particle size, shape and anisotropy. This class provides a wide range of understanding for flow lithography techniques, materials of matrix, device fabrication and versatile applications of synthesized micro structures. We report a novel particle encoding strategy by utilizing spatial patterning of rare-earth-doped upconverting nanocrystals (UCNs) via flow lithography and demonstrate applications in anti-counterfeiting and biosensing.