

Supplementary Materials

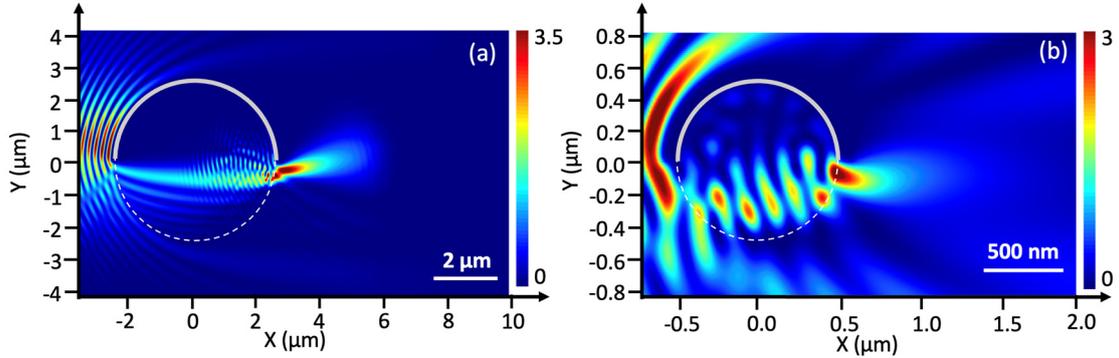


Figure S1. The light fields generated by patchy microcylinders under Gaussian beam illumination. The refractive index of the microcylinders and the background is 1.9 and 1.33, respectively. The diameter of the microcylinder is (a) 5 μm and (b) 1 μm .

Table S1. Characteristics of the light fields generated by 1 μm -diameter patchy microcylinder under point-source illumination.

θ ($^\circ$)	β ($^\circ$)	I_{max}	FWHM (μm)	L (μm)	H (μm)
0 $^\circ$	38.45 $^\circ$	1.07	0.177	0.42	0.073
10 $^\circ$	34.15 $^\circ$	1.01	0.228	0.51	0.078
20 $^\circ$	33.98 $^\circ$	1.71	0.179	0.45	0.069
30 $^\circ$	29.72 $^\circ$	1.53	0.205	0.66	0.088
45 $^\circ$	24.18 $^\circ$	1.67	0.198	0.69	0.074
50 $^\circ$	16.87 $^\circ$	1.82	0.182	0.62	0.045
60 $^\circ$	0 $^\circ$	1.84	0.168	0.58	0
70 $^\circ$	-9.02 $^\circ$	2.55	0.130	0.34	0.013
80 $^\circ$	-12.50 $^\circ$	2.57	0.126	0.30	0.016
85 $^\circ$	-16.97 $^\circ$	2.94	0.119	0.19	0.014
90 $^\circ$	-35.68 $^\circ$	3.13	0.112	0.13	0.021