Supporting Information

Anisotropic Wetting Characteristics on Submicrometer-Scale Periodic Grooved Surface

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Figure S1. Structure of the azobenzene-containing multi-arm star liquid crystalline polymer.



Figure S2. Laser irradiation setup used to generate grooved structures.



Figure S3. Relationship between the wavelength of the laser-induced grooved structure and the laser fluence as well as the incident angle of the laser beam. Error bars were generally less than 9.5 nm.



Figure S4. Dependence of the groove depth on the laser fluence. Error bars were generally less than 9.0 nm.

Table S1. Advancing and receding contact angle values as determined experimentally for grooved surfaces with wavelengths of 396 nm and 513 nm when the three-phase contact line moves along the grooves

wavelength	depth	$ heta_{ m A}$	$\theta_{ m R}$	$\theta_{\rm A} - \theta_{\rm R}$
(nm)	(nm)	(deg)	(deg)	(deg)
flat	0	84.2	61.0	23.2
396	50.0	84.3	62.5	21.8
	80.0	84.5	60.2	24.3
	97.3	85.3	60.7	24.6
	112.2	85.1	59.2	25.9
513	70.8	84.2	61.1	23.1
	84.6	84.6	62.1	22.5
	127.8	84.7	60.1	24.6
	150.8	85.0	58.9	26.1

structure	-l 4 l-	me	measured perpendicularly			measured parallel			• 0	
	(nm)	$\theta_{\rm S}$ (deg)	θ _A (deg)	$\theta_{\rm R}$ (deg)	$\theta_{\rm A} - \theta_{\rm R}$ (deg)	$\theta_{\rm S}$ (deg)	θ _A (deg)	$\theta_{\rm R}$ (deg)	$\theta_{\rm A} - \theta_{\rm R}$ (deg)	Δθ (deg)
	(IIII)									
grooved	164.3	82.7	85.5	58.5	27.0	88.5	89.7	57.3	32.4	5.8
beads-on-a-string	174.6	82.8	85.2	55.6	29.6	89.7	93.8	52.1	41.7	6.9
	197.6	82.8	85.5	52.6	32.9	93.1	94.9	51.0	43.9	10.3
	218.3	82.9	85.6	50.5	35.1	96.3	100.5	48.2	52.3	13.4
	49.1	81.9	85.1	62.8	22.3	83.2	86.4	60.7	25.7	1.3
	121.7	84.4	86.5	57.4	29.1	88.0	91.9	55.9	36.0	3.6
	138.7	83.3	87.7	54.4	33.3	91.6	95.5	48.2	47.3	8.3
	204.7	83.5	88.3	53.6	34.7	94.4	97.8	37.3	60.5	10.9

Table S2. Wetting characteristics of laser-induced structures obtained at an incident angle of 45°