# Supporting information for

## Optimizing Anisotropic Transport on Bioinspired

## Sawtooth Surfaces

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**Contact angles Pictures** 



Figure S1) Still images used to measure droplet contact angles. All blazed gratings are 12.7mm square prisms placed on a tilt table at 45°. The 10° and 17°  $b = 1.67 \mu$ m surface images were taken at a later date, the camera tilt was changed causing an apparent change in surface angle, however all surfaces were are the same angle of 45°.

## **Optical Microscopy**



Figure S2) Optical microscopy of acrylate resin templated surfaces. Delamination of the blazed grating results in the black patch seen in the 12° surface. All images taken with a Leica DMI 4000 B microscope with a 100x oil objective with the surfaces imaged in bright field using a Basler acA640-750um camera.

#### Contribution of b



Figure S3) Graph showing the velocity as a function of *b* blaze length.



## **PDMS Lithography**

Figure S4) Still frames of water droplets rolling across PDMS templated surfaces  $\alpha$  = 8.62° b = 1.67 µm

## Aged PDMS



Figure S5) 5  $\mu$ L droplets on aged PDMS surfaces on 45° tilt table. The surfaces were dried between successive runs.

## **Confocal Imaging**



Figure S6) Confocal Imaging of 0.01 mg/mL RhB dyed water on acrylate surfaces. A z scan was performed beginning below the surface with 80 nm steps in the z direction. 3d views were constructed with the FIJI 3d viewer Plug-in.