Supplementry information

Femtosecond laser induced robust periodic nanoripples structured mesh for highly efficient oil-water separation

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Movie S1. The video exhibiting the oil-water separation process using the laser treated stainless steel mesh.

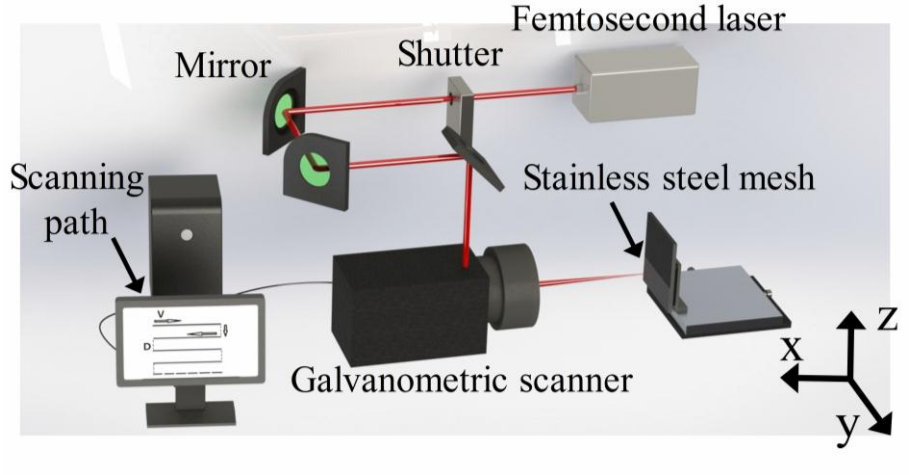

Fig. S1. Schematic of experiment setup

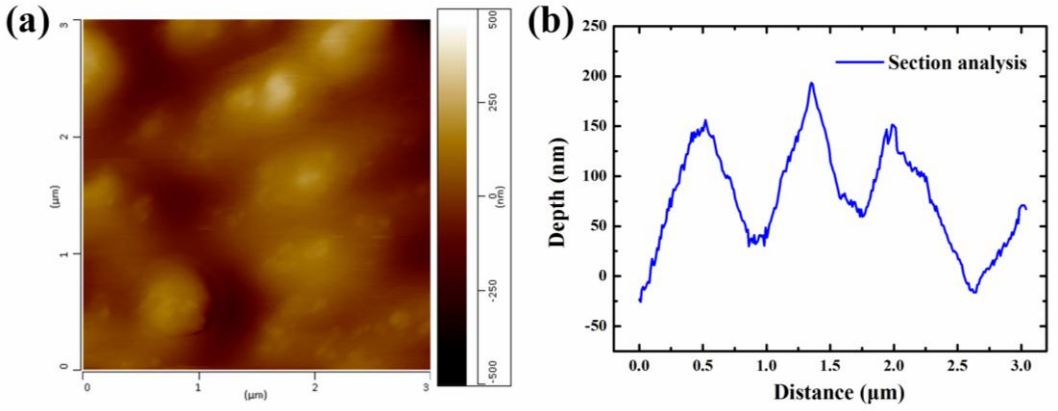

Fig. S2. AFM image of the laser treated mesh surface structures and its cross-section profile.

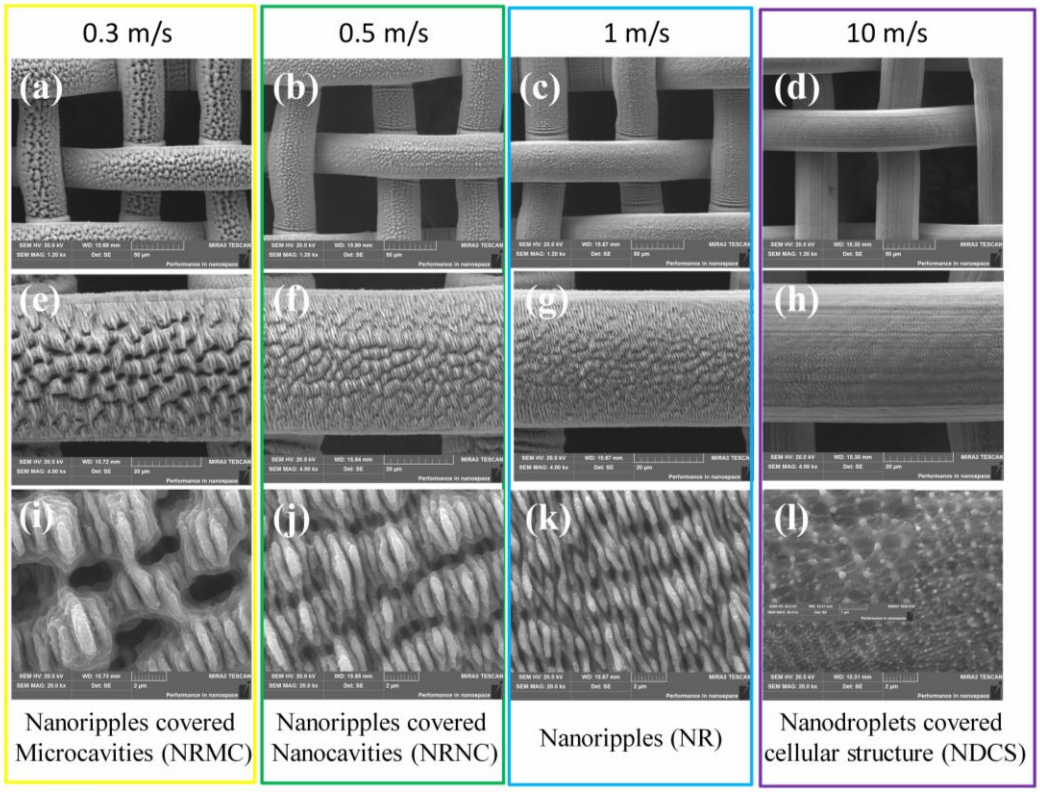

Fig. S3. SEM images of various femtosecond laser fabricated structures with different ablation parameters (scanning speed). The downsets are corresponding magnified SEM images. Laser power is fixed at 7W

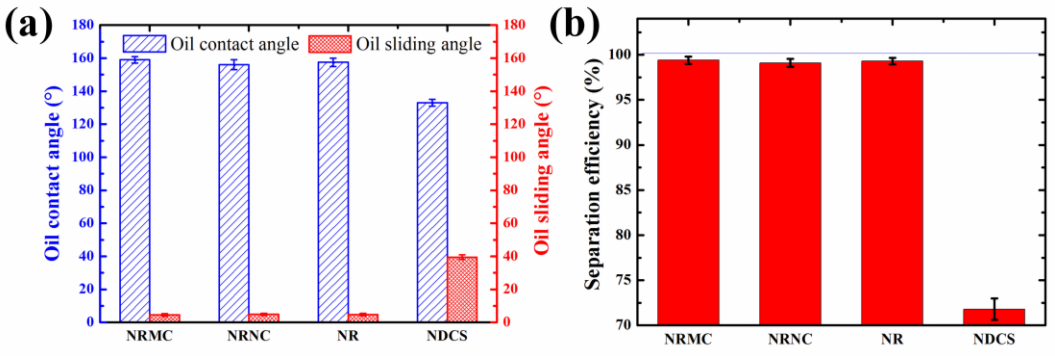

Fig. S4. (a) Contact angle and sliding angle of an oil droplet on various femtosecond laser fabricated structures in water. (b) Separation efficiency for the different femtosecond laser fabricated structures.

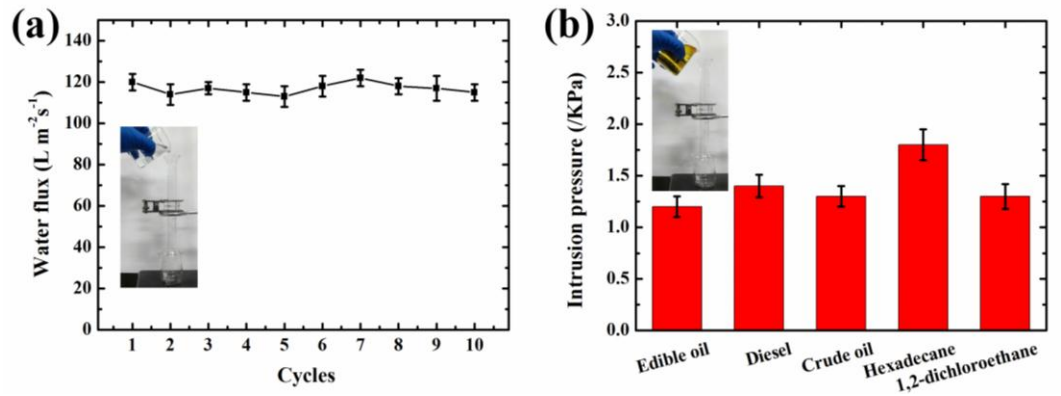

Fig. S5. (a) Water flux as a function of cycles. (b) Intrusion pressure as a function of various oils. (Water-sealed as-prepared mesh)