Supporting Information

A Multifunctional Polymeric Nanofilm with Robust Chemical Performances for Special Wettability

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Figure S1. The optical images of the (a) bare copper mesh, (b) HNO₃ and Livingston solutions combinatorially etched copper mesh, (c) etched copper mesh modified with TESPA polymeric nanofilm, and (d) etched copper mesh modified with TESPA polymeric nanofilm and OTS, respectively.



Figure S2. XRD spectra of the (a) bare copper mesh, (b) HNO₃ and Livingston

solutions combinatorially etched copper mesh, (c) etched copper mesh modified with TESPA polymeric nanofilm, and (d) etched copper mesh modified with TESPA polymeric nanofilm and OTS, respectively.



Figure S3. Simple instrument fabricated by ourselves and used to separate the mixture of n-hexane (dyed orange for clarity) and water (dyed with the blue).