Supporting information

Novel membranes with extremely high permeability fabricated by 3D printing and nickel coating for oil/water separation

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Table. S1. Comparison of flux and separation efficiency between the membranes in this study and those in the previous studies.

Materials	Solution type	Flux (L/m^2 h)	Separation efficiency (%)	FRR (%)	Ref.
MBPP membrane	n-Hexane	6000	99.5	94	[1]
SNP/PBZ modified PI membranes	Dichloromethane Bromobenzene	4500	99	98.0	[2]
PE and PTFE powder-coated PPS membrane	Chloroform	5190	~ 98	67	[3]
PDMS/SNPs/PI membrane	Trichloromethane	4400	99.55	-	[4]
Waste potato residue-coated mesh	motor oil	25200	96.5	52	[5]
3D printed membrane by selective laser sintering	n-Hexane	6700	99	-	[6]
Nano silica-filled polydimethylsiloxane (PDMS) ink	n-Hexane	23700	99.6	-	[7]
Polypyrrole (PPy)-Ni-modified fabric membrane	n-Hexane	12526	98.6	91.8	[8]
Diatomite coated mesh	n-Hexane	27000	99.2	-	[9]
ABS-Ni membrane	**n-Hexane**	**53366**	**99.78**	**99.95**	**This study**

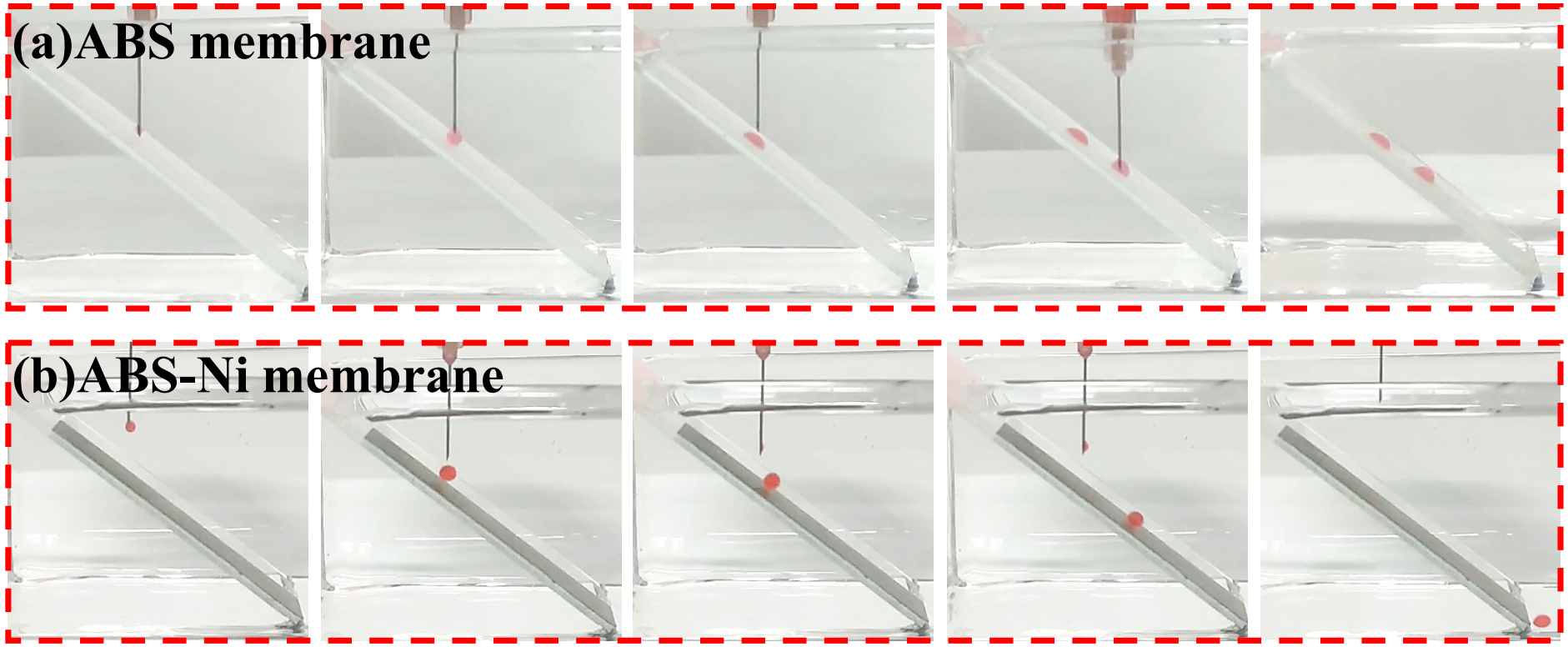


Fig.S2. Underwater oil dynamic contact behaviors of (a)ABS membrane,

(b) ABS-Ni membrane.

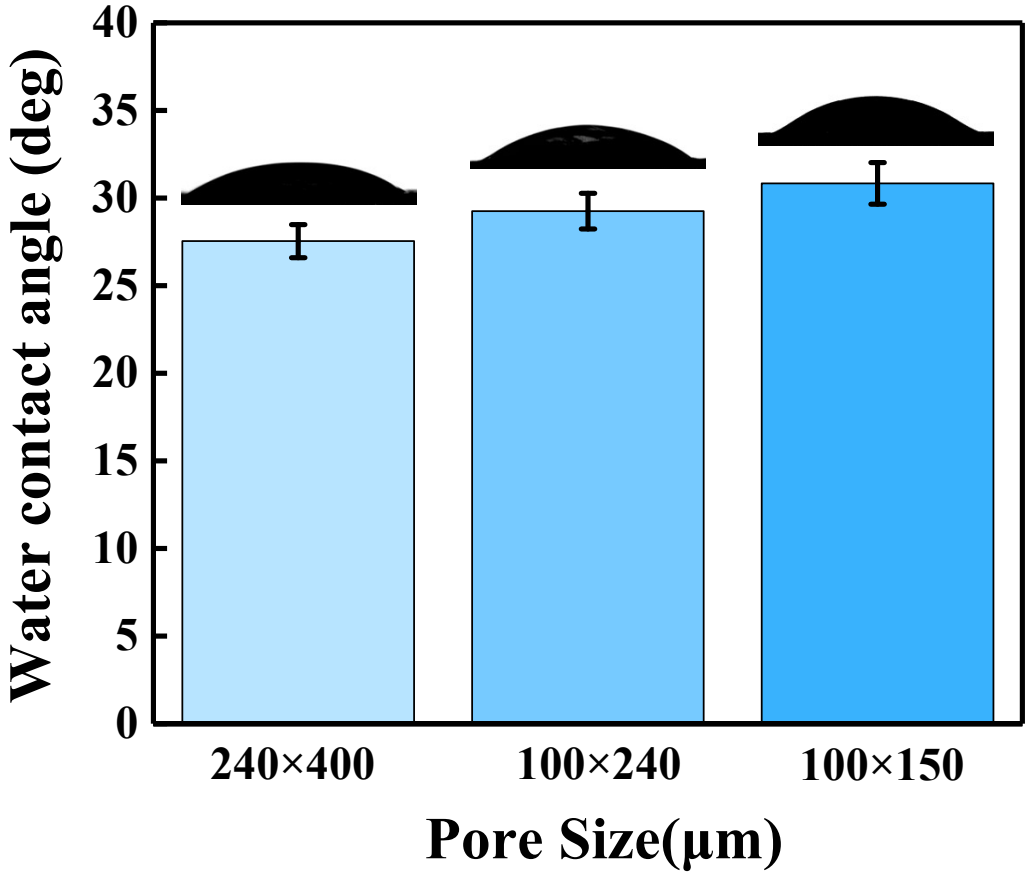
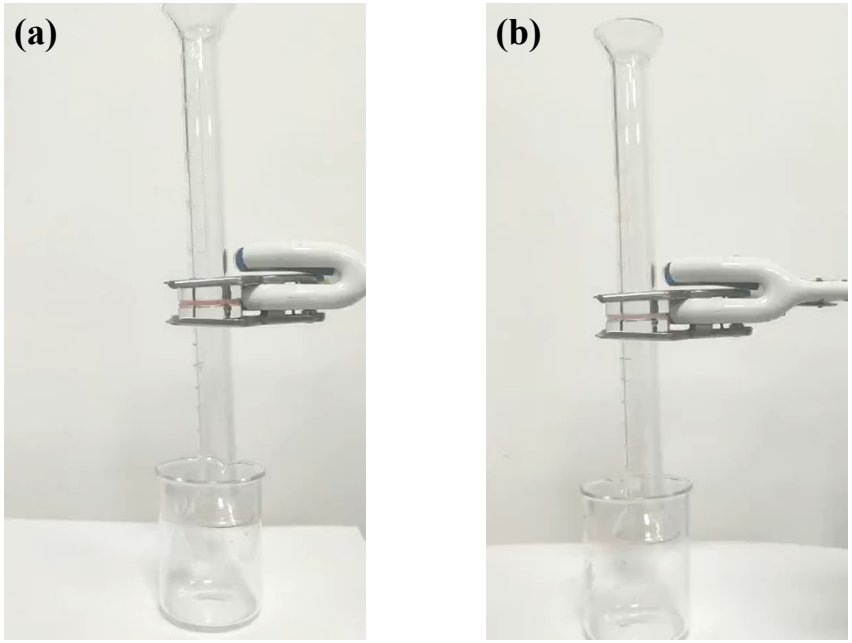


Fig. S3. WCA of modified membranes with different pore sizes.



Video. S4. Oil-water separation process of (a)ABS membrane, (b) ABS-Ni membrane.

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