

# Surface Modification of UiO-66 on Hollow Fibre Membrane for Membrane Distillation

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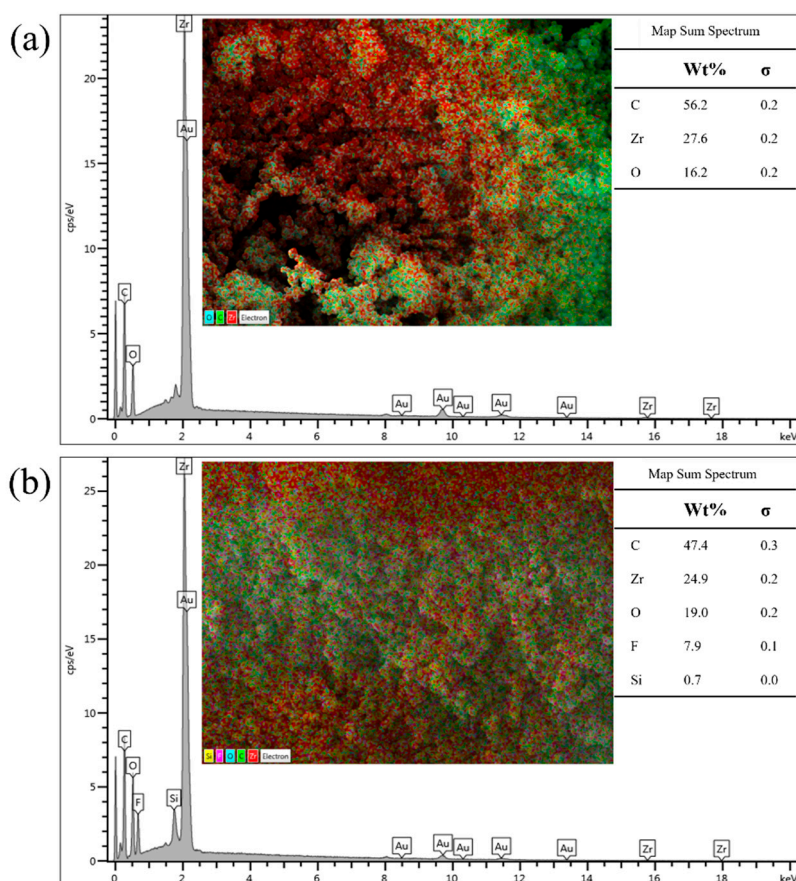


Figure S1. EDX mapping of (a) UiO-66 and (b) FAS grafted onto the UiO-66 layer

## Water flux and salt rejection calculation:

Table S1. The linear regression equation of NaCl concentration

NaCl concentration (ppm)	Equation
2 - 10	$y = 2.62x + 3.106$
10 - 60	$y = 1.976x + 15.173$
20 - 100	$y = 2.490x + 19.65$
2000 - 10,000	$y = 0.0016x + 0.37$
20,000 - 100,000	$y = 0.0014x + 7.29$

Water flux,  $J_w = \frac{V}{t \times A}$        $V = \text{water collected (L)}$

$t = \text{time (8h)}$

$A = \text{total surface area (9.28} \times 10^{-5} \text{ m}^2\text{)}$

Salt rejection (%) =  $\left(1 - \frac{C_p}{C_F}\right) \times 100\%$

Table S2. Water flux and salt rejection calculation

Membrane	Final	Water	Swept	Initial	Salt	Water
	conductivity	collected	liquid	salt	rejection	flux
		(L)	salt	(ppm),	(%)	(L/m <sup>2</sup> ·h)
			transfer	C <sub>F</sub>		

(ppm),						
C <sub>P</sub>						
Pristine	15.79 mS/cm	0.17888	26938.45	39292.85	31.44	240.94
Al <sub>2</sub> O <sub>3</sub>						
UiO-66	13.83 mS/cm	0.16987	24761.58	38364.28	35.45	228.80
S1	6.81 mS/cm	0.00197	358.81	37364.28	99.03	2.65
S2	8.4 μS/cm	0.00417	242.27	39721.42	99.39	5.61
S3	9.4 μS/cm	0.00581	206.73	41292.85	99.49	7.82
S4	4.6 μS/cm	0.0111	25.68	39435.71	99.93	14.95
S5	24.6 μS/cm	0.00814	503.91	37078.57	98.64	10.96
U1	20.7 mS/cm	0.00172	1952.11	39292.85	95.03	2.31
U2	37.9 mS/cm	0.0036	1597.43	39792.85	95.98	4.84
U3	14.6 mS/cm	0.0043	510.11	40578.57	98.74	5.79
U4	28.9 mS/cm	0.00644	764.36	39650	98.07	8.67
U5	27.11 mS/cm	0.0074	619.04	38292.85	98.38	9.96

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