

## Supporting information

### Development of a Lycopodium powder-based superhydrophobic nanofiber membrane suitable for desalination

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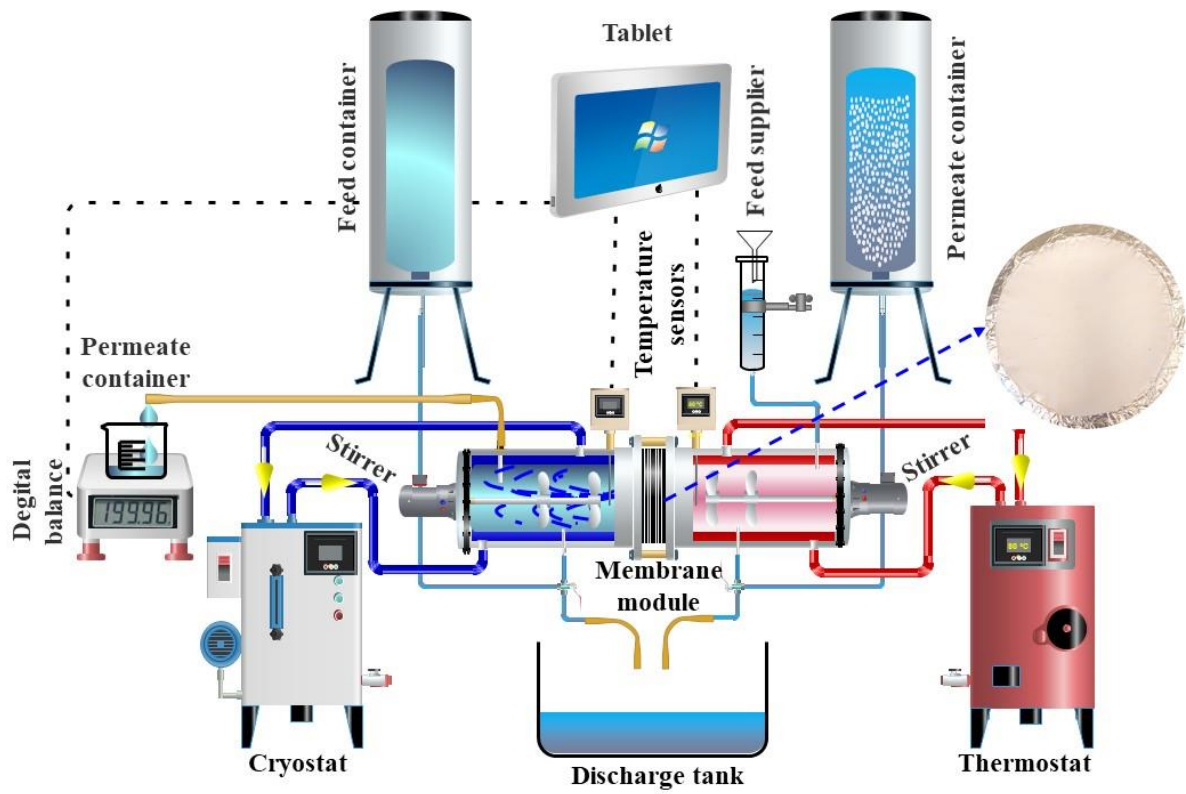
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## 1. Schematic representation of the experimental DCMD system



**Fig S1.** Direct Contact Membrane Distillation (DCMD) set-up.

## 2. Effect of the feed temperature on the DCMD permeate flux and salt rejection factor of the PVDF ENMs electrospun with different Lycopodium content in the dope solution

**Table S1.** Effect of the feed temperature ( $T_f$ ) on the permeate flux ( $J_w$ ) and salt rejection factor ( $\alpha$ ) of the PVDF ENMs electrospun with different Lycopodium content in the dope solution: feed solutions used (distilled water and 35 g/L NaCl aqueous solution); permeate temperature ( $T_p = 20$  °C; and stirring rate of both the feed and permeate solutions ( $w = 500$  rpm).

$T_f$ (°C)	40				50				60				70				80			
Feed	Distilled water		Desalination of 35 g/L NaCl		Distilled water		Desalination of 35 g/L NaCl		Distilled water		Desalination of 35 g/L NaCl		Distilled water		Desalination of 35 g/L NaCl		Distilled water		Desalination of 35 g/L NaCl	
Membrane	$J_w$ (kg/m <sup>2</sup> ·h)		$\alpha$ (%)	$\Omega_{p,final}$ (μS/cm)	$J_w$ (kg/m <sup>2</sup> ·h)		$\alpha$ (%)	$\Omega_{p,final}$ (μS/cm)	$J_w$ (kg/m <sup>2</sup> ·h)		$\alpha$ (%)	$\Omega_{p,final}$ (μS/cm)	$J_w$ (kg/m <sup>2</sup> ·h)		$\alpha$ (%)	$\Omega_{p,final}$ (μS/cm)	$J_w$ (kg/m <sup>2</sup> ·h)		$\alpha$ (%)	$\Omega_{p,final}$ (μS/cm)
PVDF-ENM	48.04	47.81	99.924	105.54	49.82	49.64	99.916	114.57	54.73	53.70	99.905	127.58	61.13	58.39	99.875	159.66	70.43	67.69	99.866	171.34
PVDF-ENM-Lyc-0.25	46.67	44.13	99.949	74.32	47.82	45.87	99.941	99.941	52.05	48.95	99.938	99.94	57.42	54.33	99.936	99.94	66.03	63.69	99.936	99.94
PVDF-ENM-Lyc-0.5	45.35	41.03	99.972	42.34	46.46	42.17	99.971	44.34	50.51	46.23	99.973	42.76	56.00	50.91	99.975	39.16	64.18	60.22	99.978	36.55
PVDF-ENM-Lyc-1	43.94	38.28	99.987	21.230	44.74	40.11	99.987	20.97	47.83	43.20	99.988	18.74	53.32	48.86	99.990	16.75	61.99	57.17	99.992	12.32
PVDF-ENM-Lyc-2	42.52	36.23	99.990	15.60	43.03	38.06	99.991	14.76	45.66	41.77	99.992	13.55	51.10	46.80	99.993	11.09	59.51	54.39	99.994	9.88
PVDF-ENM-Lyc-3	40.57	34.17	99.996	7.40	41.20	36.00	99.997	5.03	43.41	40.06	99.997	4.95	48.57	44.74	99.997	4.53	57.02	51.76	99.998	3.94