

Supplementary information

Gamma-Irradiated Janus Electrospun Nanofiber Membranes for Desalination and Nuclear Wastewater Treatment

Mohamed Essalhi ^{1,2}, Noor Ul Afsar ¹, Denis Bouyer ³, Ola Sundman ¹, Michael Holmboe ¹,

Mohamed Khayet ⁴, Mats Jonsson ⁵, Naser Tavajohi ^{1,*}

¹ Department of Chemistry, Umeå University, 90187, Umeå, Sweden.

² African Sustainable Agriculture Research Institute (ASARI), Mohammed VI Polytechnic University (UM6P), Laâyoune, 70000, Morocco

³ Institut Européen des Membranes, IEM, UMR 5635, ENSCM, CNRS, Univ Montpellier, Montpellier, France

⁴ Department of Structure of Matter, Thermal Physics and Electronics, Faculty of Physics, University Complutense of Madrid, Avda. Complutense s/n, 28040, Madrid, Spain.

⁵ Department of Chemistry, KTH Royal Institute of Technology, SE - 100 44 Stockholm, Sweden.

* Corresponding author:

naser.tavajohi@umu.se

Tel. +46-907866061

Table S.1. Atomic composition of unirradiated and irradiated ENMs (F, C, Cr, Co, and Cs) by EDX analysis

Unirradiated ENMs					
Membrane code	Chemical elements (wt.%)		Nuclides (wt.%)		
	F	C	Cr	Co	Cs
PVDF SL-ENM	54.5	35.5	5.7	2.8	1.5
PVDF/PES DL-ENM	54.0	37.4	4.6	2.7	1.3
PVDF/PES-OH DL-ENM	56.4	38.0	3.3	1.6	0.7
PVDF/PES DL-ENM	59.7	35.8	2.7	1.2	0.6

Irradiated ENMs					
Membrane code	Chemical elements (wt.%)		Nuclides (wt.%)		
	F	C	Cr	Co	Cs
PVDF SL-ENM	56.5	37.5	3.4	1.8	0.8
PVDF/PES DL-ENM	56.9	38.5	2.7	1.3	0.6
PVDF/PES-OH DL-ENM	59.5	37.1	1.9	1.1	0.4
PVDF/PES DL-ENM	61.6	36.3	1.2	0.7	0.2