

# Electrospun Silica-Polyacrylonitrile Nanohybrids for Water Treatments

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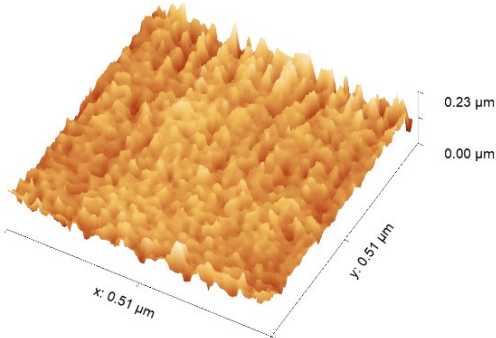
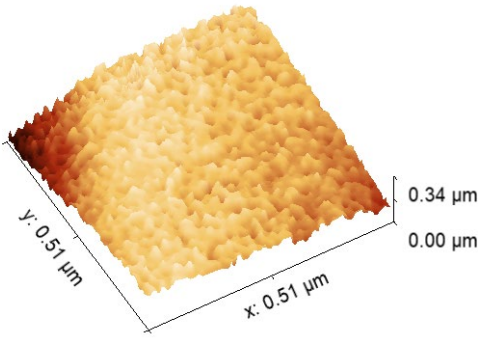
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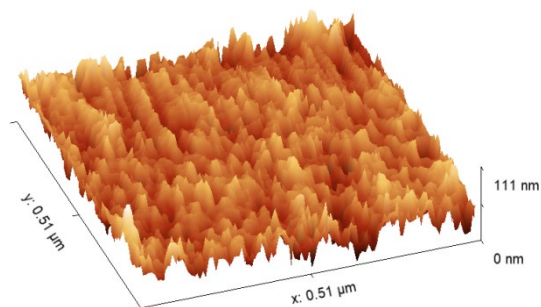
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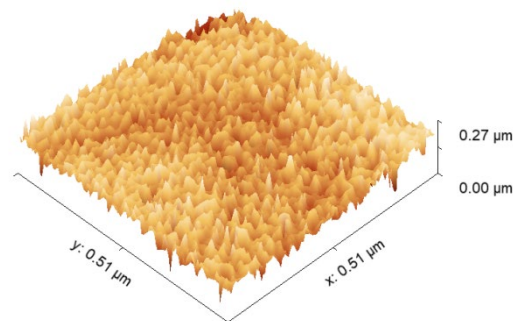
**Table S1.** AFM individual measurements of single fiber fragments: (a), (c), (e), (g), and (i) PAN membranes; (b), (d), (f), (h), and (j) PAN-Si membranes.

(a) PAN membrane		(b) PAN-Si membrane	
			
<b>Statistical Quantities</b>		<b>Statistical Quantities</b>	
Average value:	134.549 nm	Average value:	115.803 nm
RMS roughness (Sq):	18.7042 nm	RMS roughness (Sq):	23.0488 nm
RMS (grain-wise):	18.7042 nm	RMS (grain-wise):	23.0488 nm
Mean roughness (Sa):	13.9075 nm	Mean roughness (Sa):	18.1009 nm
Skew (Ssk):	−0.346433	Skew (Ssk):	−0.462895
Excess kurtosis:	2.55043	Excess kurtosis:	0.583787
Projected area:	257,874 nm <sup>2</sup>	Projected area:	0.25787 μm <sup>2</sup>
Surface area:	853,566 nm <sup>2</sup>	Surface area:	1.10023 μm <sup>2</sup>
Surface slope (Sdq):	4.44792	Surface slope (Sdq):	5.80853
Volume:	34.6967 × 10 <sup>−21</sup> m <sup>3</sup>	Volume:	29.8625 × 10 <sup>−21</sup> m <sup>3</sup>

(c) PAN membrane



(d) PAN-Si membrane



## Statistical Quantities

Average value:	49.814 nm
RMS roughness (Sq):	12.0975 nm
RMS (grain-wise):	12.0975 nm
Mean roughness (Sa):	9.4858 nm
Skew (Ssk):	$7.50480 \times 10^{-3}$
Excess kurtosis:	0.483549

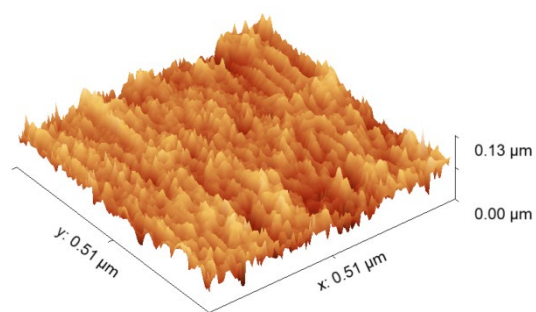
Projected area:	261,856 nm <sup>2</sup>
Surface area:	712,632 nm <sup>2</sup>
Surface slope (Sdq):	3.27822
Volume:	$13.0440 \times 10^{-21}$ m <sup>3</sup>

## Statistical Quantities

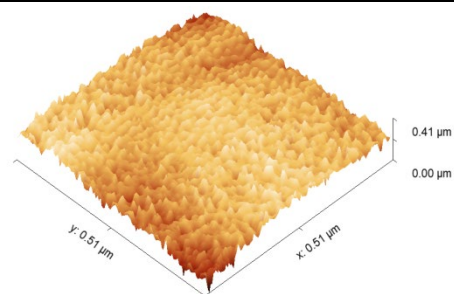
Average value:	161.991 nm
RMS roughness (Sq):	31.7688 nm
RMS (grain-wise):	31.7688 nm
Mean roughness (Sa):	24.1850 nm
Skew (Ssk):	-0.486780
Excess kurtosis:	1.20452

Projected area:	0.26186 μm <sup>2</sup>
Surface area:	1.78483 μm <sup>2</sup>
Surface slope (Sdq):	9.00439
Volume:	$42.4183 \times 10^{-21}$ m <sup>3</sup>

(e) PAN membrane



(f) PAN-Si membrane



## Statistical Quantities

Average value:	64.863 nm
RMS roughness (Sq):	13.4755 nm
RMS (grain-wise):	13.4755 nm
Mean roughness (Sa):	10.5473 nm
Skew (Ssk):	−0.179237
Excess kurtosis:	0.296227

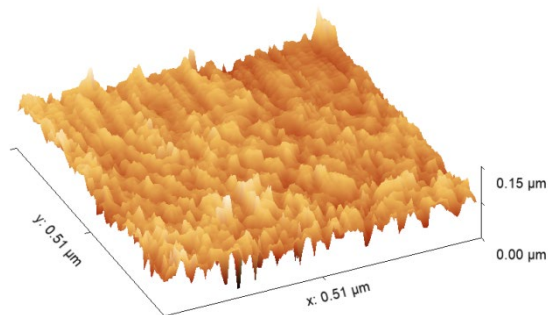
Projected area:	261,856 nm <sup>2</sup>
Surface area:	774,965 nm <sup>2</sup>
Surface slope (Sdq):	3.60174
Volume:	$16.9848 \times 10^{-21} \text{ m}^3$

## Statistical Quantities

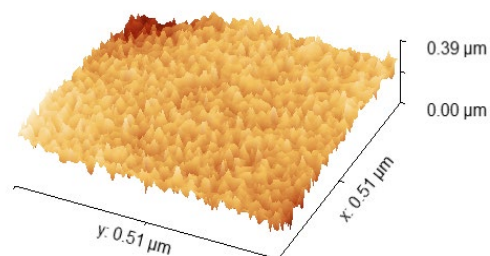
Average value:	262.491 nm
RMS roughness (Sq):	41.4914 nm
RMS (grain-wise):	41.4914 nm
Mean roughness (Sa):	32.0846 nm
Skew (Ssk):	−0.503540
Excess kurtosis:	0.886592

Projected area:	0.26186 μm <sup>2</sup>
Surface area:	1.88802 μm <sup>2</sup>
Surface slope (Sdq):	9.42221
Volume:	$68.7349 \times 10^{-21} \text{ m}^3$

(g) PAN membrane



(h) PAN-Si membrane



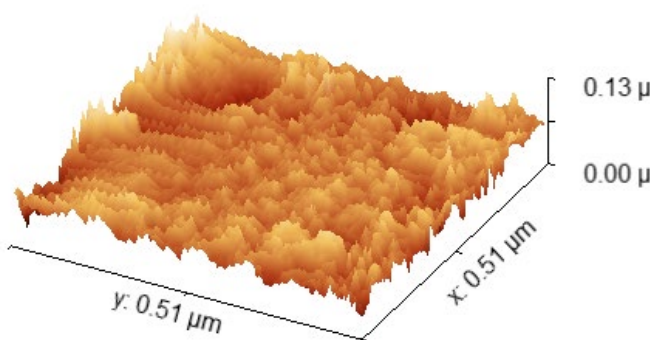
## Statistical Quantities

Average value:	82.114 nm
RMS roughness (Sq):	11.5133 nm
RMS (grain-wise):	11.5133 nm
Mean roughness (Sa):	8.9604 nm
Skew (Ssk):	0.0910920
Excess kurtosis:	1.07171
Projected area:	261,856 nm <sup>2</sup>
Surface area:	682,607 nm <sup>2</sup>
Surface slope (Sdq):	3.16464
Volume:	$21.5021 \times 10^{-21} \text{ m}^3$

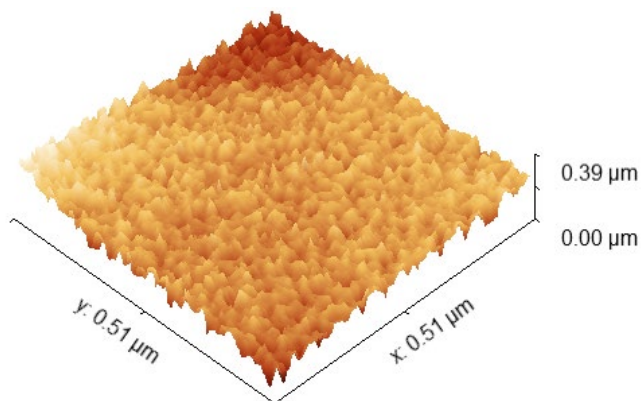
## Statistical Quantities

Average value:	239.720 nm
RMS roughness (Sq):	38.8378 nm
RMS (grain-wise):	38.8378 nm
Mean roughness (Sa):	28.1871 nm
Skew (Ssk):	-1.01578
Excess kurtosis:	2.61707
Projected area:	0.26186 μm <sup>2</sup>
Surface area:	1.76057 μm <sup>2</sup>
Surface slope (Sdq):	8.85958
Volume:	$62.7722 \times 10^{-21} \text{ m}^3$

(i) PAN membrane



(j) PAN-Si membrane



## Statistical Quantities

Average value:	67.237 nm
RMS roughness (Sq):	13.5971 nm
RMS (grain-wise):	13.5971 nm
Mean roughness (Sa):	10.3022 nm
Skew (Ssk):	$-25.8007 \times 10^{-3}$
Excess kurtosis:	1.07242

Projected area:	261,856 nm <sup>2</sup>
Surface area:	701,993 nm <sup>2</sup>
Surface slope (Sdq):	3.22295
Volume:	$17.6063 \times 10^{-21}$ m <sup>3</sup>

## Statistical Quantities

Average value:	224.321 nm
RMS roughness (Sq):	37.6789 nm
RMS (grain-wise):	37.6789 nm
Mean roughness (Sa):	28.3934 nm
Skew (Ssk):	-0.278625
Excess kurtosis:	1.13166

Projected area:	0.26186 μm <sup>2</sup>
Surface area:	1.73121 μm <sup>2</sup>
Surface slope (Sdq):	8.64715
Volume:	$58.7399 \times 10^{-21}$ m <sup>3</sup>