Table S1: Osmotic permeability coefficient p_f and equilibrium flux Φ_0 of water in selected simulations and experiments. We used the relationship $p_f = \frac{1}{2}\Phi_0 v_l$ from Ref. 1 in order to compare non-equilibrium experiments (upper half of the table) with equilibrium molecular dynamics simulations (lower half). $v_l = 3.09 \times 10^{-23}$ cm^3 is the volume of a water molecule in the liquid state.

	Ref.	$p_f \times 10^{14}$ [cm^{3}s^{-1}]	Φ_0 [ns^{-1}]
Aqp1	(2)	4.9	3.2
Aqp4	(2)	15	9.7
AqpZ	(3)	2.0	1.3
gA[a]	(4)	1.6	1.0
desformyl gA[b]	(5)	110	71
$R = 0.35$ nm		4.0	2.6
$R = 0.40$ nm		5.7	3.7
$R = 0.45$ nm		30.0	19.4
$R = 0.50$ nm		66.5	43.0
$R = 0.55$ nm		117	75.8
$R = 0.60$ nm		363	235
$R = 0.70$ nm		700	453
$R = 1.0$ nm		1480	956
carbon nanotube[c]	(6)	26.2	16.9
desformyl gA (DH)[d]	(1)	10	5.8

[a] bacterial peptide channel gramicidin A
[b] desformylated gramicidin A
[c] $(6, 6)$ carbon nanotube, $R \approx 0.24$ nm
[d] desformyl gA in the double-helical conformation

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