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Correction to Transparent Nanocellulosic Multilayer Thin Films on Polylactic Acid with Tunable Gas Barrier Properties

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When calculating the water vapor permeability of the films, we accidently forgot to take into account the partial pressure during the measurements. Hence, the water vapor permeability values are incorrect. The corrected Figure 7 is shown here.

The corrected Tables 1 and 3 are also included below.

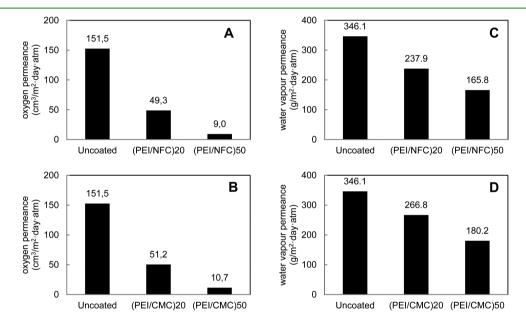


Figure 7. Oxygen permeance and water vapour permeance of (a, c) PEI/NFC and (b, d) PEI/CMC assemblies on PLA, measured at 23° C and 50% RH. The data are mean values. Figure format is based on ref 10.

Table 1. Thickness, Oxygen, and Water Vapor Permeability Data for the PEI/NFC and PEI/CMC Assemblies at 23 $^{\circ}$ C and 50% RH a

			oxygen permeability $(cm^3 \mu m/(m^2 day kPa))$			water vapor permeability (pg m/(m² s kPa))	
	assembly thickness $(nm)^b$	oxygen permeance ($cm^3/(m^2day atm)$)	assembly ^c	total	water vapor permeance $(g/(m^2day atm))$	assembly ^c	total
113 μ m PLA		151.5		169.0	346.1		4468
$(PEI/NFC)_{20}$	550	49.3	0.79	55.5	237.9	95.7	3102
$(PEI/NFC)_{50}$	1803	9.0	0.34	10.2	165.8	131.2	2209
$(PEI/CMC)_{20}$	844	51.2	1.29	58.0	266.8	224.5	3496
$(PEI/CMC)_{50}$	3117	10.7	0.71	12.6	180.2	267.9	2456

[&]quot;The data are mean values. ^bAssembly thickness based on single-layer coating. ^cThe water and oxygen permeability for the individual LbL coatings was decoupled from the total permeability.⁴⁹ Table format is based on ref 10.

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Table 3. Water Vapor Permeability Data at 23 °C and 50% RH for Layer-by-Layer Assemblies of PEI/NFC and PEI/CMC and Literature Values for Some Renewable and Synthetic Polymers

material	water vapor permeability $(pg m/(m^2 s kPa))$		
(PEI/NFC) ₅₀ assembly	131.2		
(PEI/CMC) ₅₀ assembly	267.9		
NFC (carboxymethylated) ¹⁵	3300		
arbinoxylan ⁵⁶	201		
amylose ⁵⁴	1200		
amylopectin ⁵⁴	1400		
cellophane (regenerated cellulose) ^{SS}	69000		

Additionally, the following correction is needed in the article: Page 7356, correct to "A 20 bilayer PEI/NFC coating deposited on PLA, which has a water vapour permeance of $346.1 \text{ g/(m}^2 \text{ day atm})$,"

Page 7358, correct to "Decoupled, 50 bilayer assemblies of PEI/NFC and PEI/CMC on PLA exhibited WVPs of 131.2 and $267.9 \text{ pg m/(m}^2 \text{ s kPa)}$, respectively."

Page 7358, correct to, "A pristine NFC film exhibited a water vapor permeability of 3.3 ng $m/(m^2 s kPa)$,"

Page 7358, correct to "The WVPs for the LbL-coated PLA films was also evaluated at 38 °C and 90%. For pure PLA, the WVP was measured to be 12.5 ng m/(m^2 s kPa)."

Page 7358, correct to "with values of 10.0 and 10.5 ng m/($\rm m^2$ s kPa) recorded when 50 bilayers of PEI/NFC and PEI/CMC were applied, respectively. Decoupled 50 bilayer assemblies of PEI/NFC and PEI/CMC on PLA exhibited WVPs of 1.4 and 2.7 ng m/($\rm m^2$ s kPa) 38 °C and 90% RH, respectively."

The corrected values have only very minor consequences on the conclusions of the work.

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