1 *Type of the Paper (Article)*

2 Gas permeability of cellulose aerogels with a
3 designed dual pore space system

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10 Supplementary Materials:

11 The change in chamber pressure from the set initial pressure indicates that the gas molecules pass through the
12 aerogel sample with respect to time and comes to the equilibrium. Figure S1 shows the chamber pressure as a
13 function of time for a dual pore system aerogel (ACS-PS18) which was prepared using PS18 surfactant. The
14 theoretical calculation fits almost to the experimental data employing equation (6) (see the open circles in Figure
15 S1).

$p(t) = p_0 \tanh(t/\tau+a)$	
p_0	1005,9
τ	123,65
a	-0,23451
R	0,99995
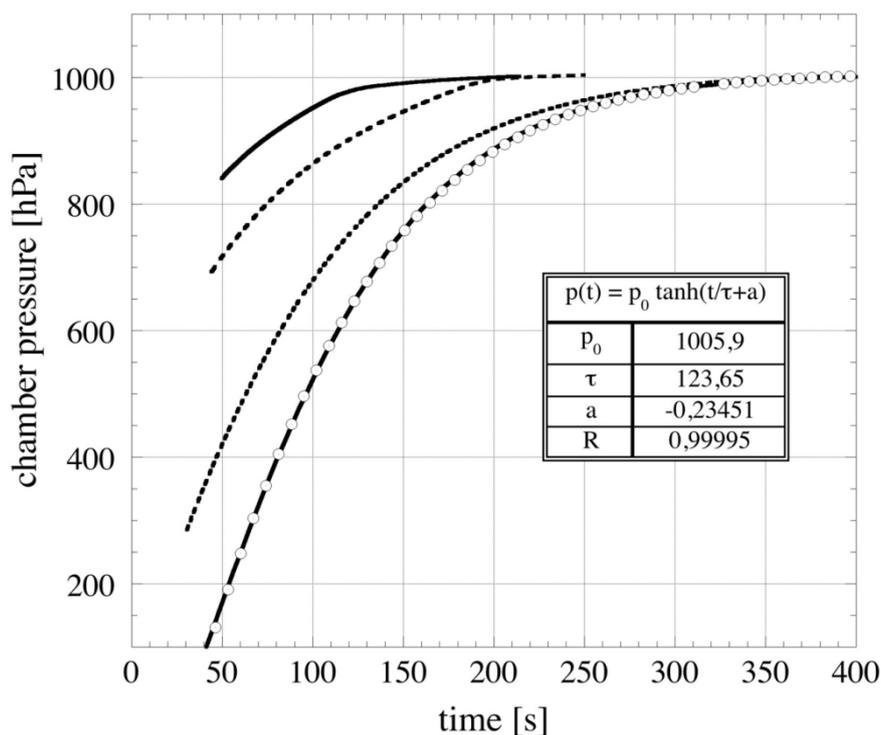
17 **Figure S1.** Chamber Pressure as a function of time for a dual pore system aerogel (ACS-PS18) treated
18 with PS18 surfactant. Four curves are shown which differ by the initial pressure in the chamber and
19 thus the pressure difference applied to the sample. For the curve with the biggest pressure difference
20 the data (open circles) are fit with the prediction of equation 6. There is an almost perfect agreement
21 between theory and experimental data showing that the theoretical model behind the evaluation of
22 the permeability constant is valid.

23 The gas permeability values of aerogels of cellulose scaffolds (ACS) at different chamber pressure values are
24 shown in Figure S2. The average values of these are mentioned in Table 3.
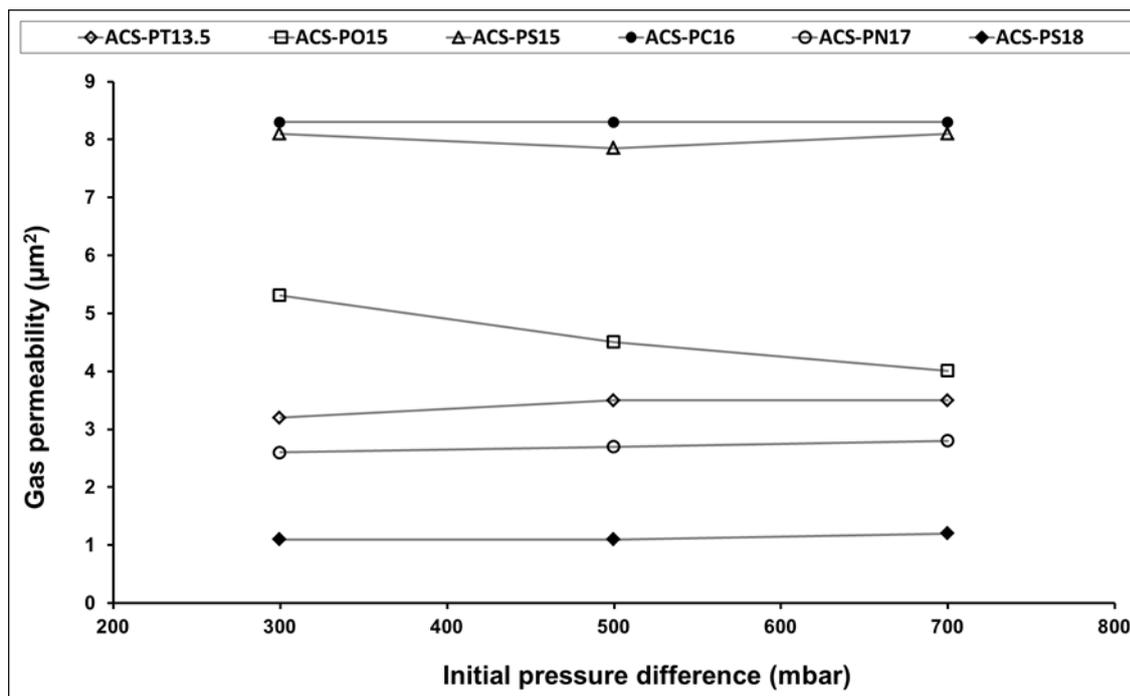
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26 **Figure S2.** Gas permeability data of aerogels of cellulose scaffolds (ACS).

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