Electronic Supplementary Material (ESI) for Physical Chemistry Chemical Physics.

Electronic supplementary information

Chemical derivatization and biofunctionalization of hydrogel nanomembranes for potential biomedical and biosensor applications

Musammir Khan[#], Swen Schuster and Michael Zharnikov[*]

Applied Physical Chemistry, Heidelberg University, Im Neuenheimer Feld 253,

69120 Heidelberg, Germany

[#] *Present address: Department of Electronics and Communications Engineering, Tampere University of Technology, Korkeakoulunkatu 3, 33720, Tampere, Finland*

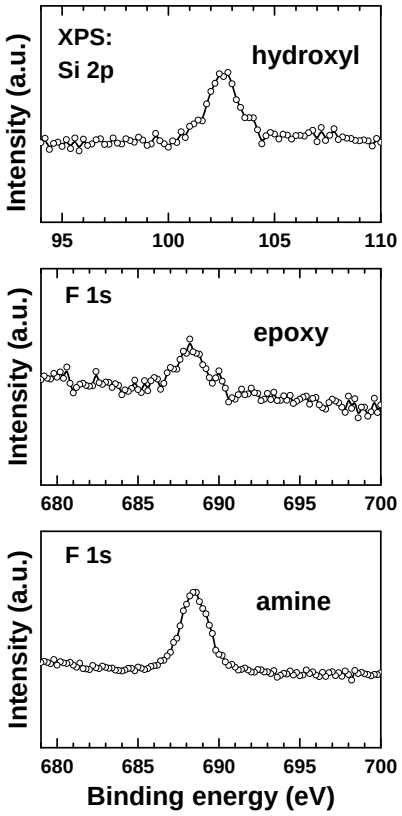

Figure S1. Spectroscopic signatures of the hydroxyl (top panel) as well as non-reacted and still reactive epoxy (middle panel) and amine (bottom panel) groups for the PHM prepared at the equilibrium compositions of the precursors, representative of the entire series. The XP spectra in the top, middle, and bottom panels were acquired after the TMSI, TFMBA, and TFAA derivatization, respectively, corresponding to the steps 3, 5, and 8 in Figure 1.

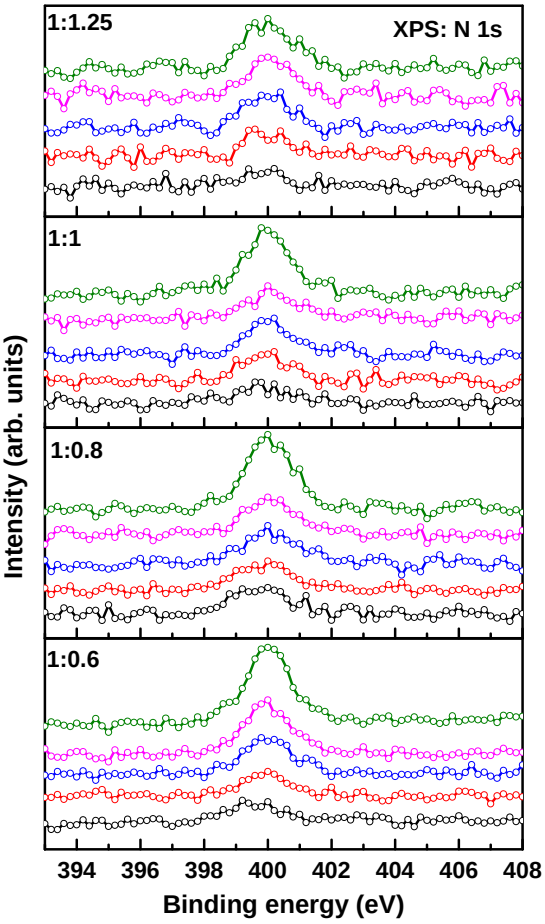

Figure S2. N 1s XP spectra of the pristine PHMs (black) as well as for the PHMs functionalized with NHS-biotin (red) and subsequently exposed to BSA (blue), albumin (magenta), or avidin (green). The composition of the precursors, given by the amino/epoxy ratio, is given in the respective panels.