Supporting Information to

Hierarchically Structured Vanadium Pentoxide–Polymer Hybrid Materials

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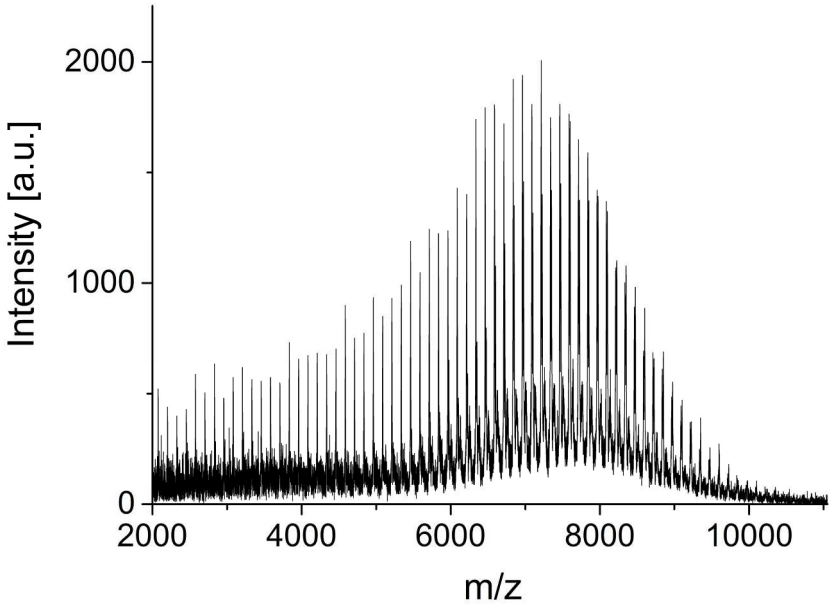

Figure S1. MALDI-ToF mass spectrum of the poly[2-(3-butenyl)-2-oxazoline] precursor (number-average molecular weight *ca*. 7200 g/mol).

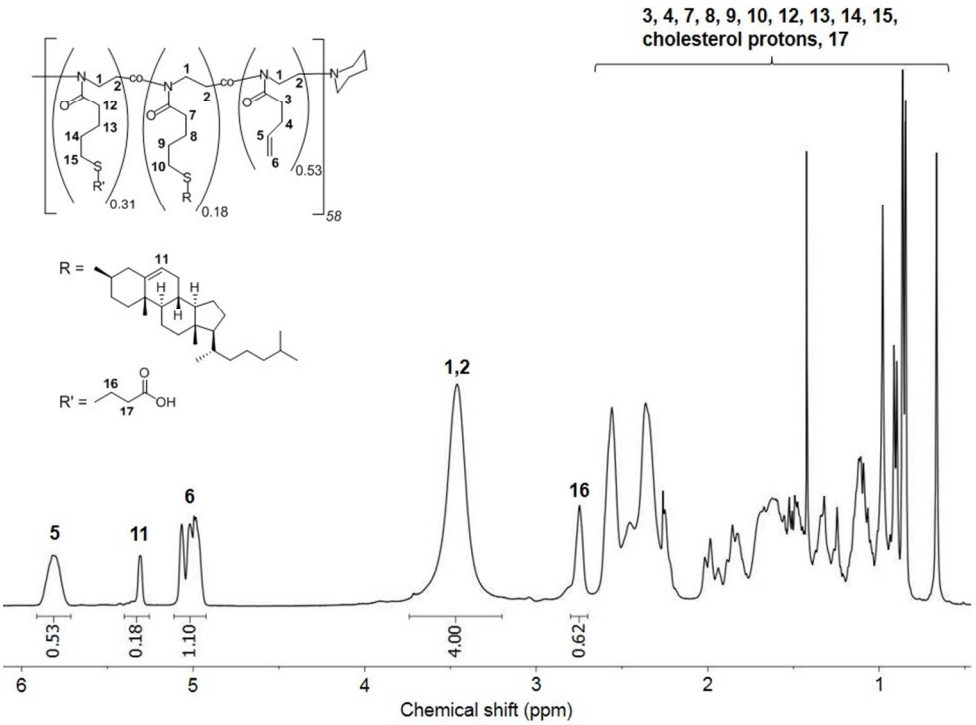

Figure S2: ^{1}H NMR spectrum (400 MHz, $CDCl_3$) of the poly[2-(3-butenyl)-2-oxazoline] modified with 1-thiocholesterol and 3-mercaptopropionic acid.

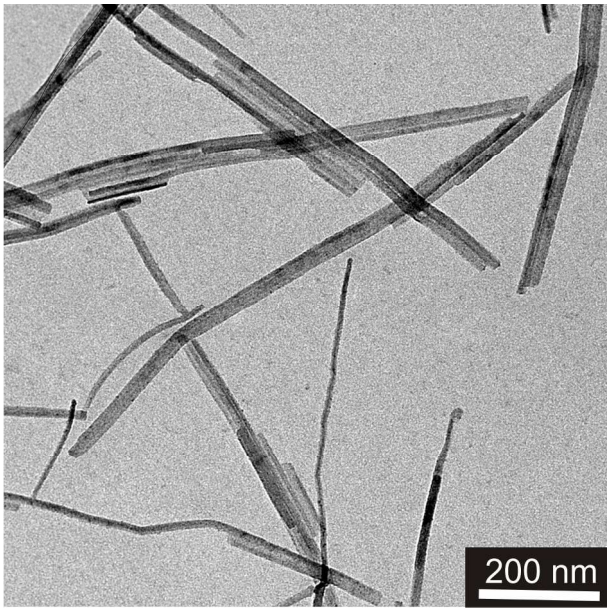

Figure S3: TEM image showing the vanadium pentoxide V_2O_5 taken from tactosol.

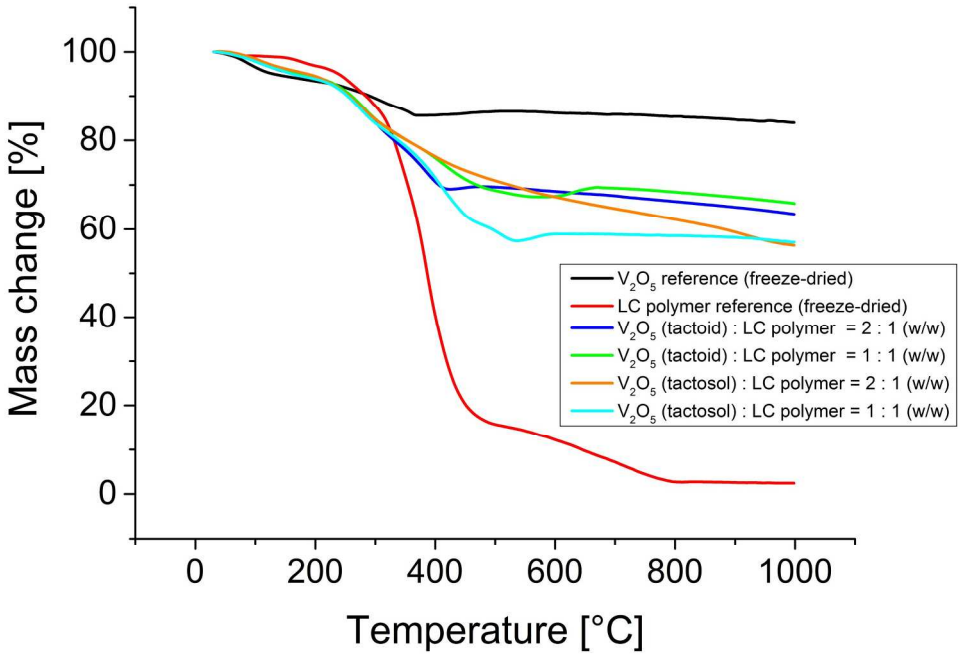

Figure S4: Thermogravimetric analysis of different vanadium pentoxide composite materials and of vanadium pentoxide and polymer reference.

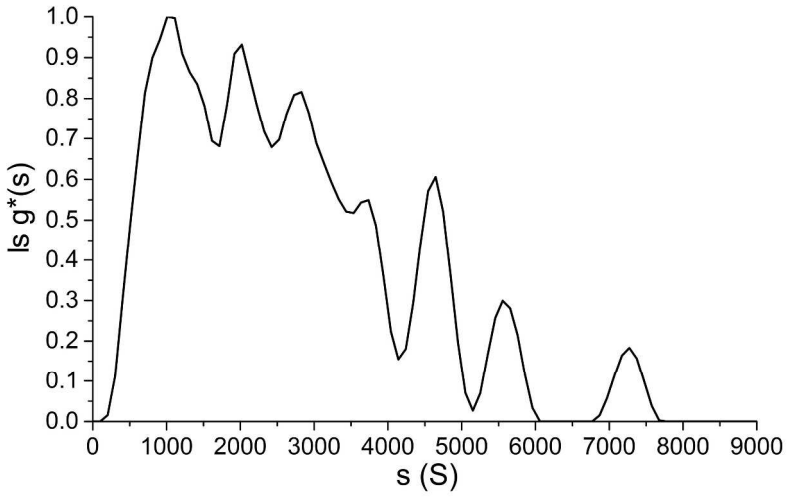

Figure S5: AUC sedimentation coefficient distribution of V_2O_5 dispersion (4.6K rpm, absorbance optics). The non-diffusion-corrected distribution of the sediment ls g*(s) (y axis) illustrates an apparent measure of the concentration of the absorbing species, and the sedimentation coefficients s (in units of S (Svedberg) = 10^{-13} seconds, x axis) are proportional to the size and density of the sedimenting particles.

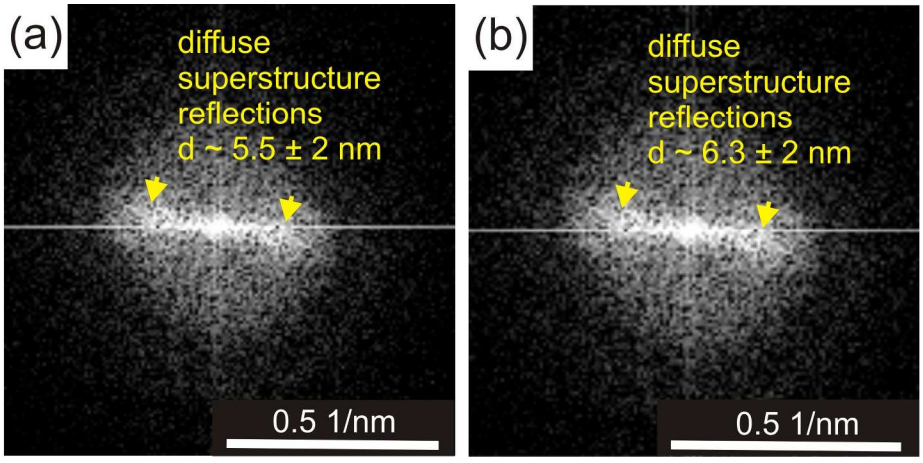

Figure S6. FFT analysis on cross sections of V_2O_5 composite CEN-ISO (a) and CEN-TACT (b) (thickness of cuts 85 nm). Superstructure reflections reveal a packing of ribbons of *ca.* 5-6 nm.

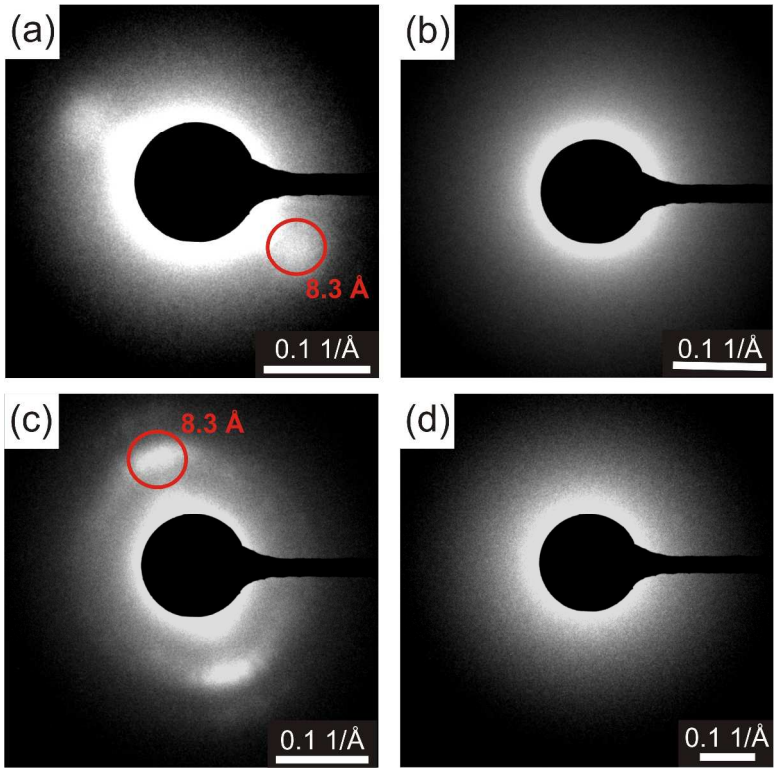

Figure S7. Electron diffraction on V_2O_5 composite materials CEN-ISO (cross section (a) and longitudinal section (b)) and CEN-TACT (cross section (c) and longitudinal section (d)). Electron diffractions were taken from domains illustrated in Figure 10. Phase-transfer from aqueous medium to THF was performed *via* centrifugation, and subsequently, samples were rotationally sheared. Cross sectional cuts of the composites exhibit a thickness of 85 nm and longitudinal cuts a thickness of 95 nm. Only ED of cross sections reveals spots corresponding to a distance of *ca*. 8.3 Å.