

## Electronic Supporting Information

### Characterization of Carbon-Coated Magnetic Nanoparticles using Clinical Blood Coagulation Assays: Effect of PEG- Functionalization and Comparison to Silica Nanoparticles

Lukas Bircher<sup>a,b,•</sup>, Oliver M. Theusinger<sup>a,•</sup>, Silvan Locher<sup>a</sup>, Philipp Eugster<sup>a,b</sup>, Birgit Roth-Z'graggen<sup>a,b</sup>, Christoph M. Schumacher<sup>c</sup>, Jan-Dirk Studt<sup>d</sup>, Wendelin J. Stark<sup>c</sup>, Beatrice Beck-Schimmer<sup>a,b</sup>, Inge K. Herrmann<sup>a,b,\*</sup>

<sup>a</sup> Institute of Anesthesiology, University Hospital Zurich, Rämistrasse 100, CH-8091 Zurich, Switzerland.

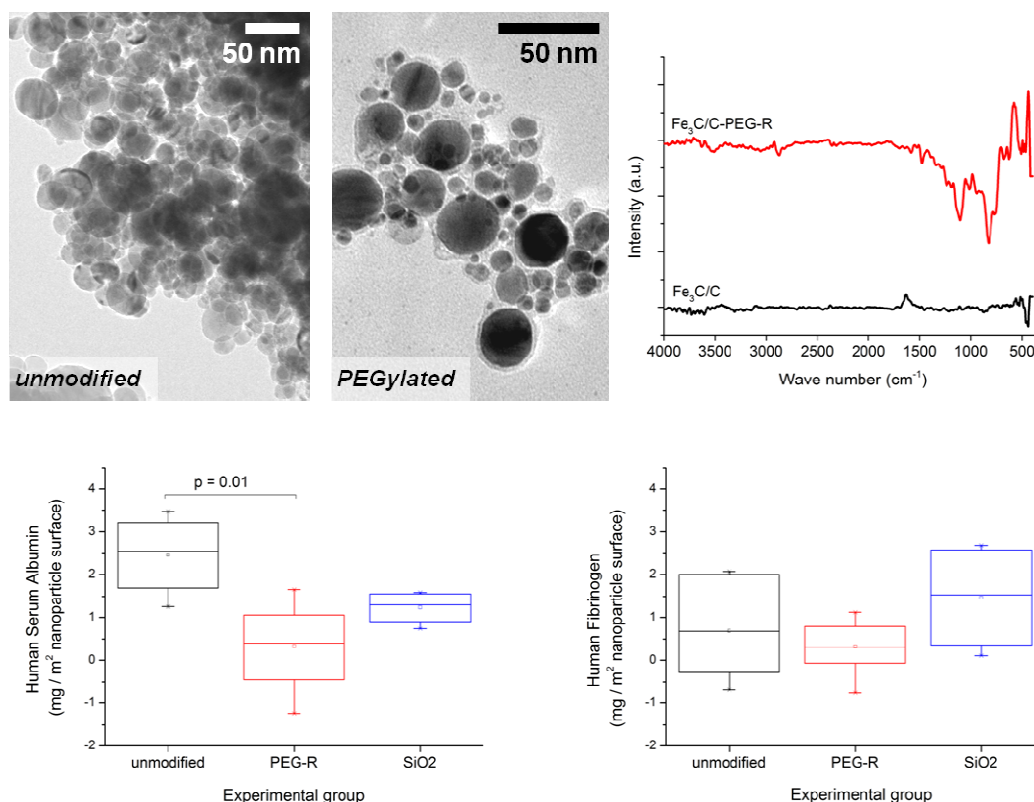
<sup>b</sup> Institute of Physiology and Zurich Center for Integrative Human Physiology, University of Zurich, Winterthurerstrasse 190, CH-8057 Zurich, Switzerland.

<sup>c</sup> ETH Zurich, Institute for Chemical and Bioengineering, Wolfgang-Pauli-Strasse 10, CH-8093 Zurich, Switzerland.

<sup>d</sup> Division of Hematology, University Hospital Zurich, Rämistrasse 100, CH-8091 Zurich, Switzerland.

\*Corresponding Author:

Dr. Inge K. Herrmann  
University and University Hospital Zurich  
Rämistrasse 100  
8091 Zurich, SWITZERLAND  
ingekherrmann@gmail.com  
+41 (0)44 255 3413



**Figure S1:** Transmission Electronmicrographs (TEM) of unmodified (left) and PEGylated carbon-coated iron carbide nanoparticles (right). Infrared spectra of unmodified (bottom trace, black) and PEGylated nanoparticles (top trace, red) showing the characteristic C-O-C band at  $\sim 1100 \text{ cm}^{-1}$ . Protein adsorption measurements for human serum albumin (HSA) and human fibrinogen. HSA was significantly more adsorbed on unmodified particles compared to PEGylated ones ( $p=0.01$ ). In comparison to HSA, human fibrinogen was significantly less adsorbed on unmodified particles ( $p=0.023$ ). For PEGylated nanoparticles, fibrinogen adsorption on was comparable to HSA adsorption.