

**Supplementary information to:**

**Comparing  $\alpha$ -quartz-induced cytotoxicity and interleukin-8 release in pulmonary mono- and co-cultures exposed under submerged and air-liquid interface conditions**

**Alexandra Friesen<sup>1,†</sup>, Susanne Fritsch-Decker<sup>2,†</sup>, Matthias Hufnagel<sup>1</sup>, Sonja Mülhopt<sup>3</sup>, Dieter Stapf<sup>3</sup>, Andrea Hartwig<sup>1,\*</sup> and Carsten Weiss<sup>2,\*</sup>**

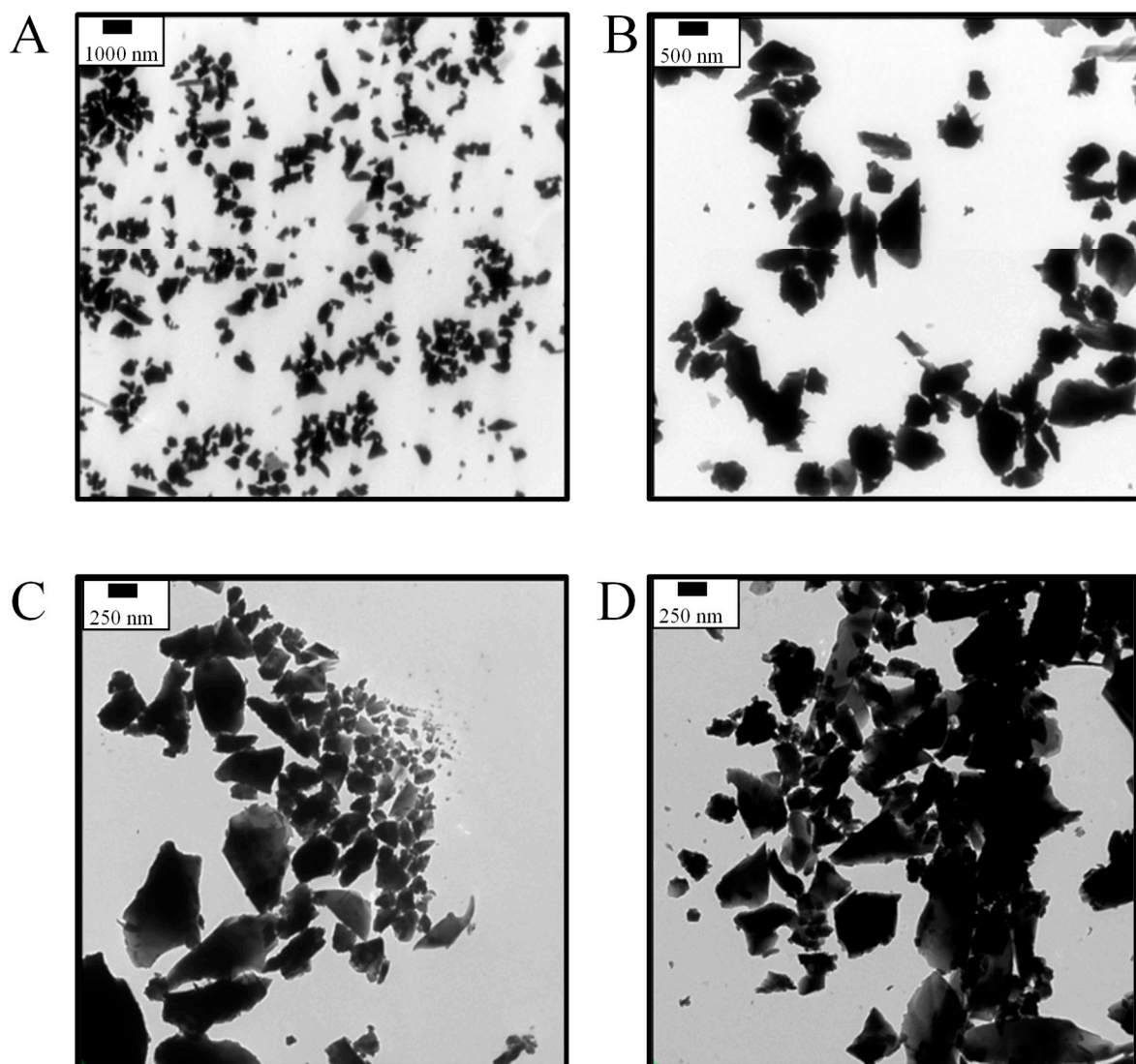
<sup>1</sup> Karlsruhe Institute of Technology (KIT), Institute of Applied Biosciences, Department of Food Chemistry and Toxicology, Karlsruhe Germany

<sup>2</sup> Karlsruhe Institute of Technology (KIT), Institute of Biological and Chemical Systems, Biological Information Processing, Eggenstein-Leopoldshafen, Germany

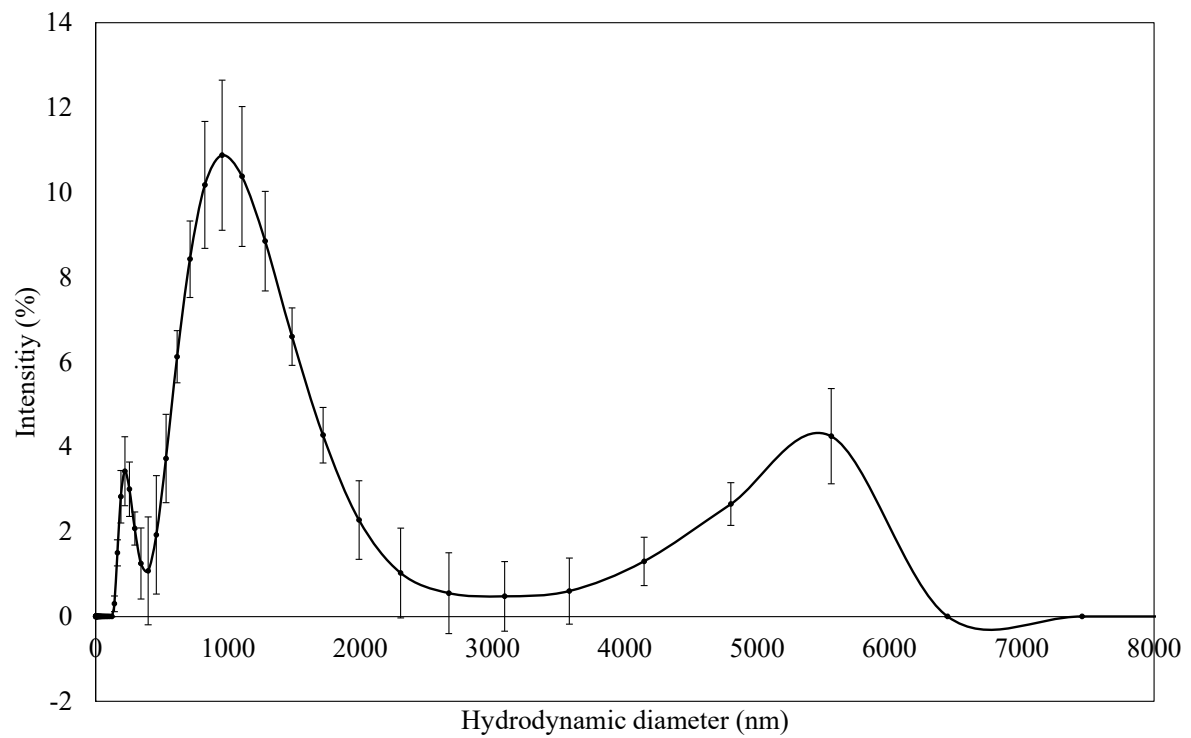
<sup>3</sup> Karlsruhe Institute of Technology (KIT), Institute for Technical Chemistry, Eggenstein-Leopoldshafen, Germany

\* Correspondence: [andrea.hartwig@kit.edu](mailto:andrea.hartwig@kit.edu), [carsten.weiss@kit.edu](mailto:carsten.weiss@kit.edu)

<sup>†</sup> These authors contributed equally to this work.



**Supplementary Figure S1: Transmission electron microscopy (TEM) of Min-U-Sil5 particles after sonication for submerged experiments (A, B) and after aerosolization with the Vitrocell Cloud (C, D).** TEM grids were loaded with a 1 mg/mL suspension of Min-U-Sil5 quartz in water after sonication for 15 seconds (A, B) or by placing them inside the exposure chamber alongside the air-liquid interface experiments at a deposition of 15.22  $\mu\text{g}/\text{cm}^2$  (C) and 58.08  $\mu\text{g}/\text{cm}^2$  (D).



**Supplementary Figure S2: Size distribution of Min-U-Sil5 particles measured by dynamic light scattering (DLS).** Size distribution of particles measured by DLS at a concentration of 15 mg/mL. The quartz particles were suspended in 0.05 % bovine serum albumin (BSA) solution, sonicated in accordance with the NANOGENOTOX protocol and frozen at -20 °C. Before cell culture experiments and DLS measurements, the suspensions were thawed and re-sonicated in a sonication bath. The results from two independent experiments performed in triplicates are displayed  $\pm$  SD.