**Multi-endpoint toxicological assessment of polystyrene nano- and microparticles in different biological models *in vitro***

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## Supplemental Data

**Table S1: Limit of detection and limit of quantification of AF4 for PS-nano and PS-micro dispersed in cell culture media**

| | Cell culture medium | LOD | LOQ |
|---|---|---|---|
| **PS-nano** | Intestinal (DMEM) | 69 µg/L | 229 µg/l |
| | Placenta (EM) | 82 µg/L | 275 µg/L |
| **PS-micro** | Intestinal (DMEM) | 12 µg/L | 38 µg/L |
| | Placenta (EM) | 86 µg/L | 286 µg/L |

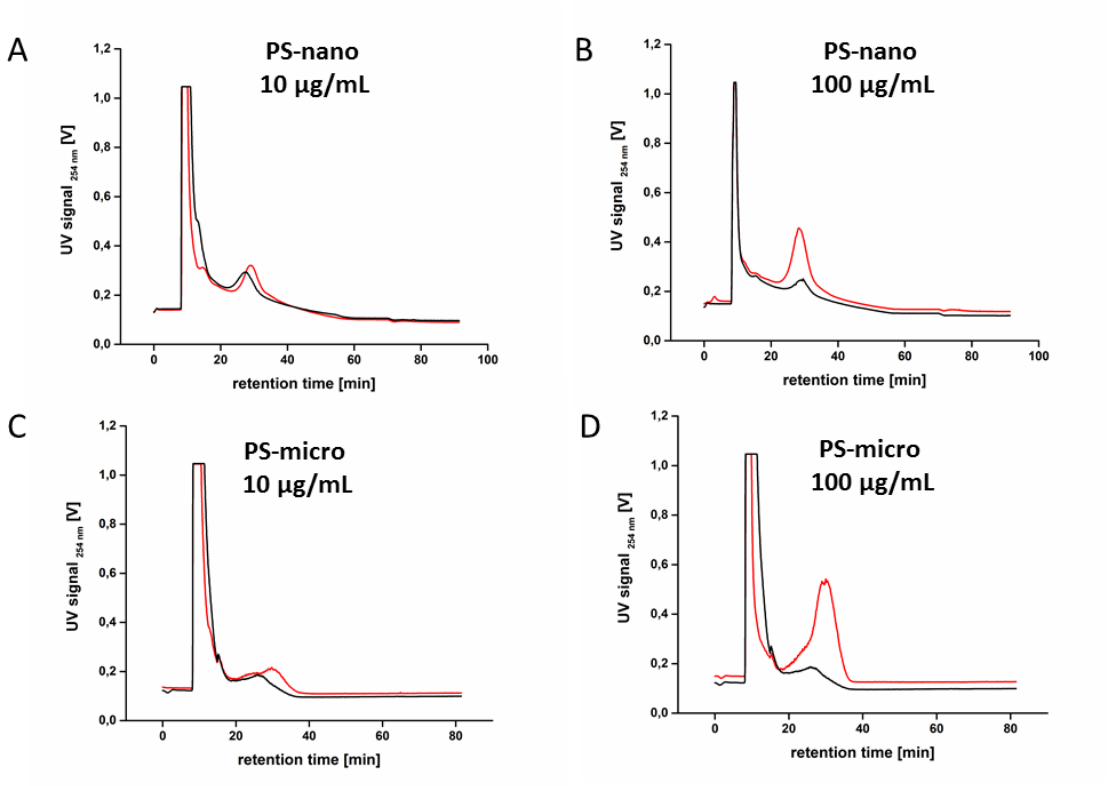


**Fig. S1: Translocation of PS-nano and PS–micro across the Transwell® membrane without cells.** Empty inserts were exposed to 10 or 100 µg/mL of PS-nano (A+ B) and PS-micro (C+ D) for 24 h and particles were detected in apical (red line) and basolateral supernatants (black line) by AF4-UV at a retention time of 30 min.

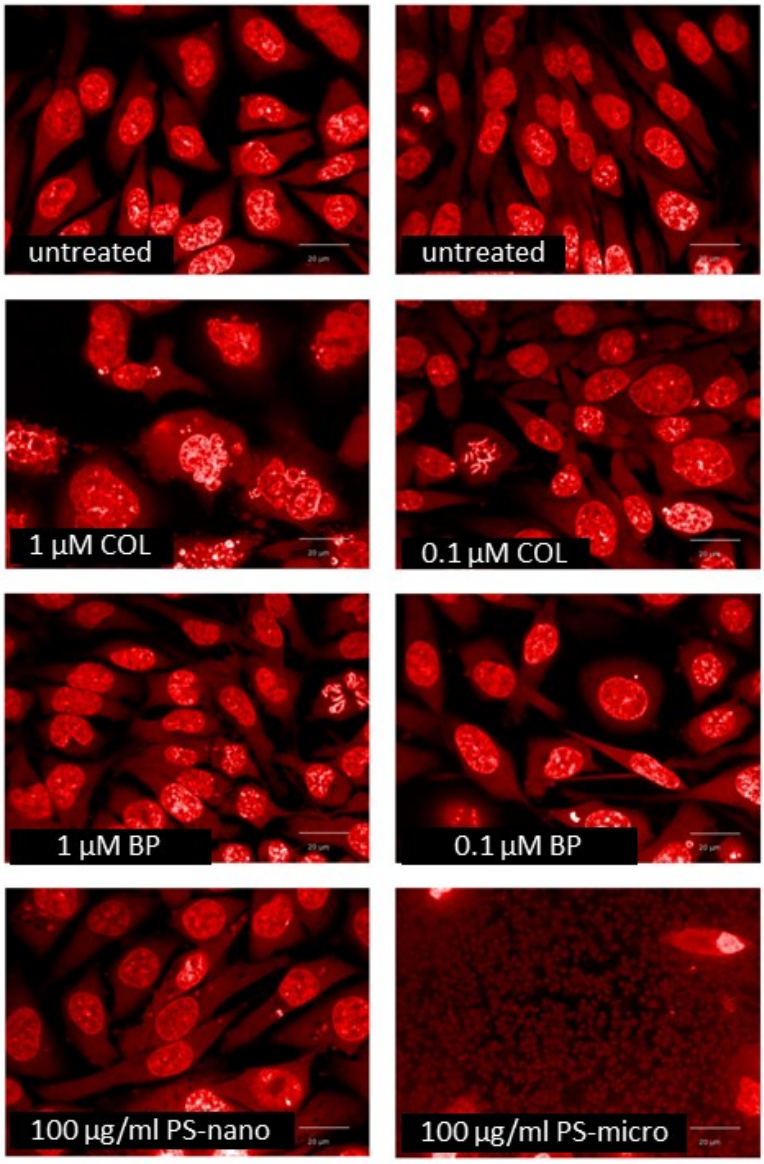


**Fig. S2: Formation of micronuclei by PS-micro.** CHO cells stained using Hoechst 33258 after the micronucleus test are shown. Controls show clear signs of micronuclei adjacent to the nucleus which are brighter than the nucleus. The highest concentration of PS-nano shows staining in the cytoplasm, with neither the correct localisation nor the needed intensity. It was therefore concluded, that these are no micronuclei, but more likely lysosomes containing fluorescent nanoparticles. The corresponding concentration was removed from the analysis. The highest concentration of PS-micro particles show more than 20 % toxicity, resulting in the exclusion of these concentrations from the analysis.