Electronic Supplementary Material (ESI) for Environmental Science: Nano.


# Origin, exposure routes and xenobiotics impart nanoplastics with toxicity on freshwater bivalves

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## Electronic Supplementary Information

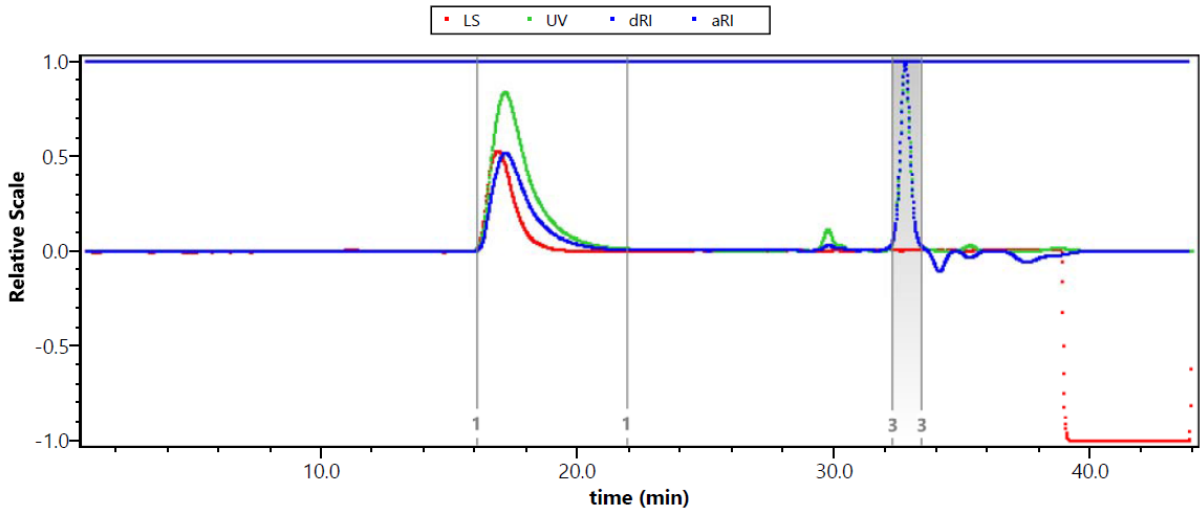



**Figure S1:** Size exclusion chromatogram of the commercial PS chains used to prepare NP-PS model nanoplastics. The peak 1 on the three detectors (light scattering, UV and differential RI) is assigned to the sample yielding to $M_n$=89 kg/mol, $M_w$=196 kg/mol and $Đ=M_w/M_n$=2.21. Peak 3 is the flow marker.

a)

b)

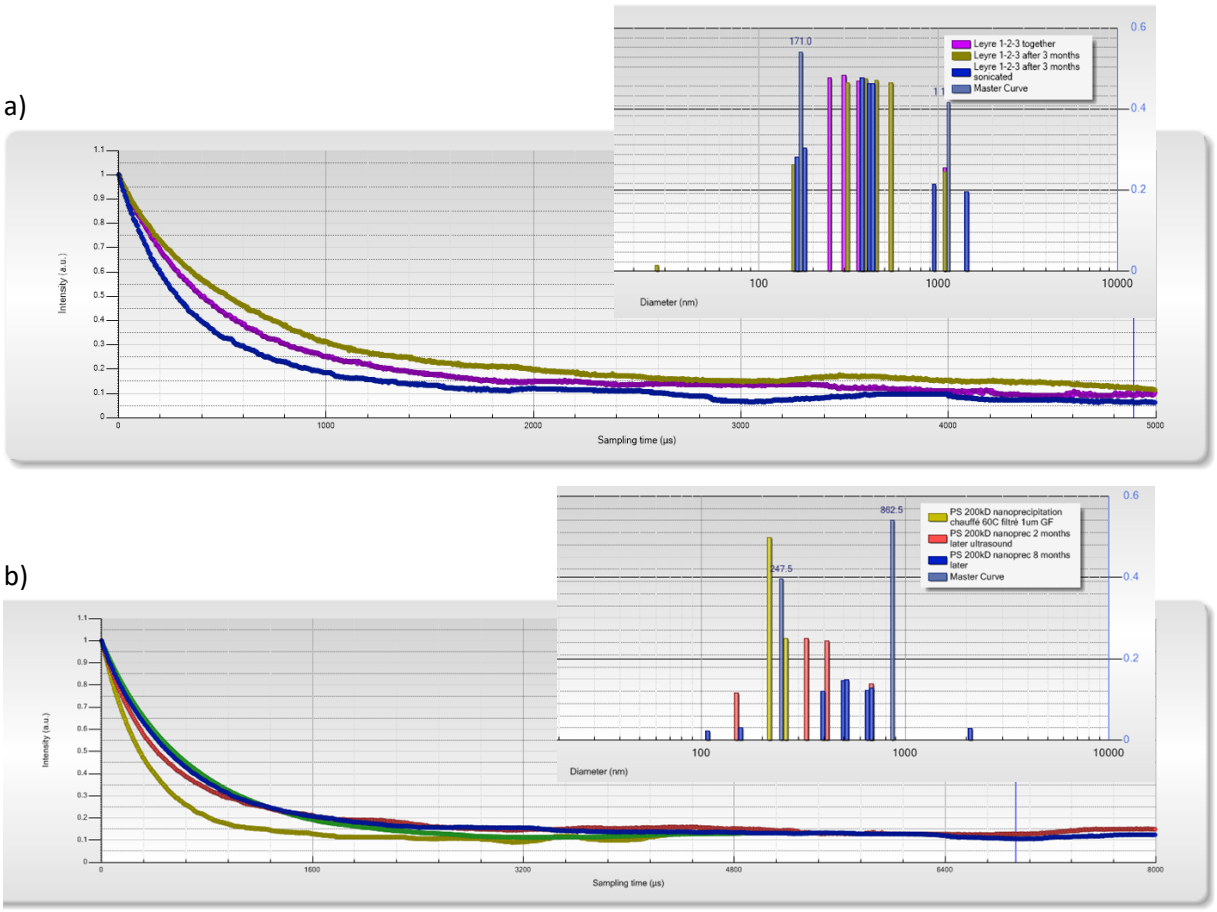
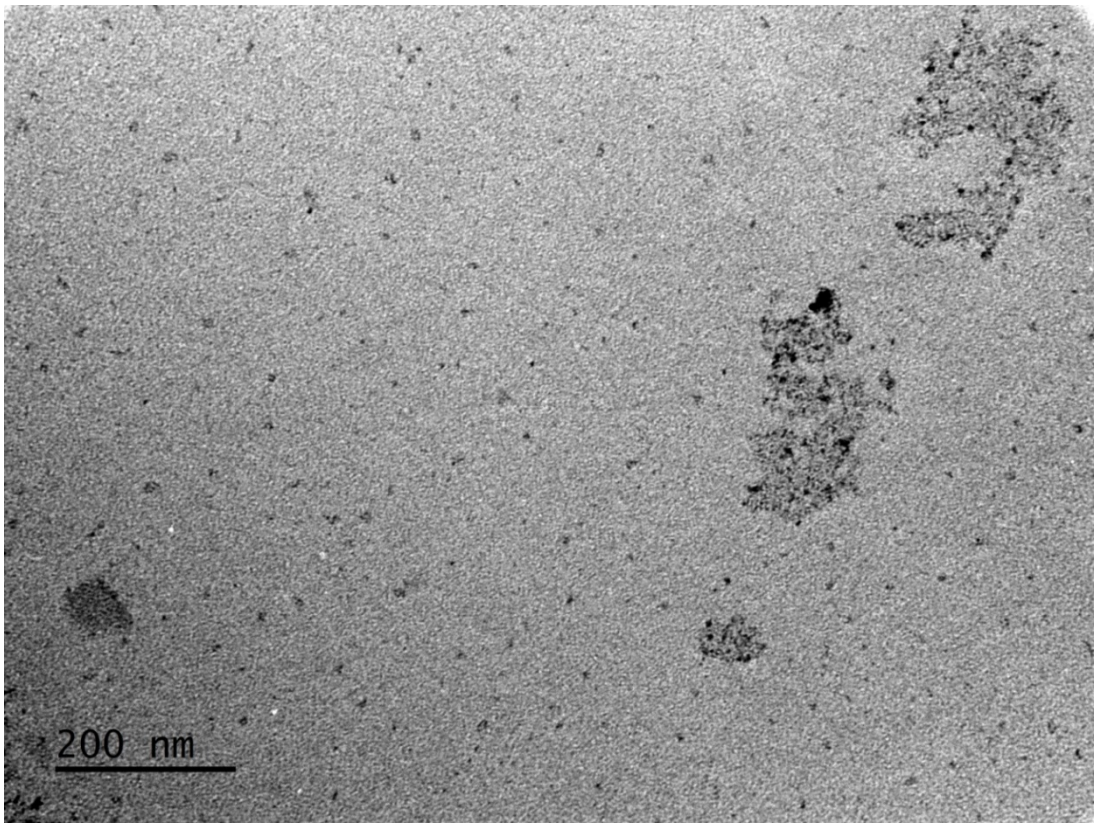



**Figure S2:** Kinetic study of colloidal stability by DLS (at 165° scattering angle, on a Vasco™ Flex remote-head backscattering DLS instrument, Cordouan Technologies, Pessac, France) of a) NP-L and b) NP-PS during several months after their preparation (when indicated, simple sonication with an ultrasound bath for 5 min was performed, before measurement). Insets show hydrodynamic size histograms obtained by the multimode Pade-Laplace fitting method.

a)




b)

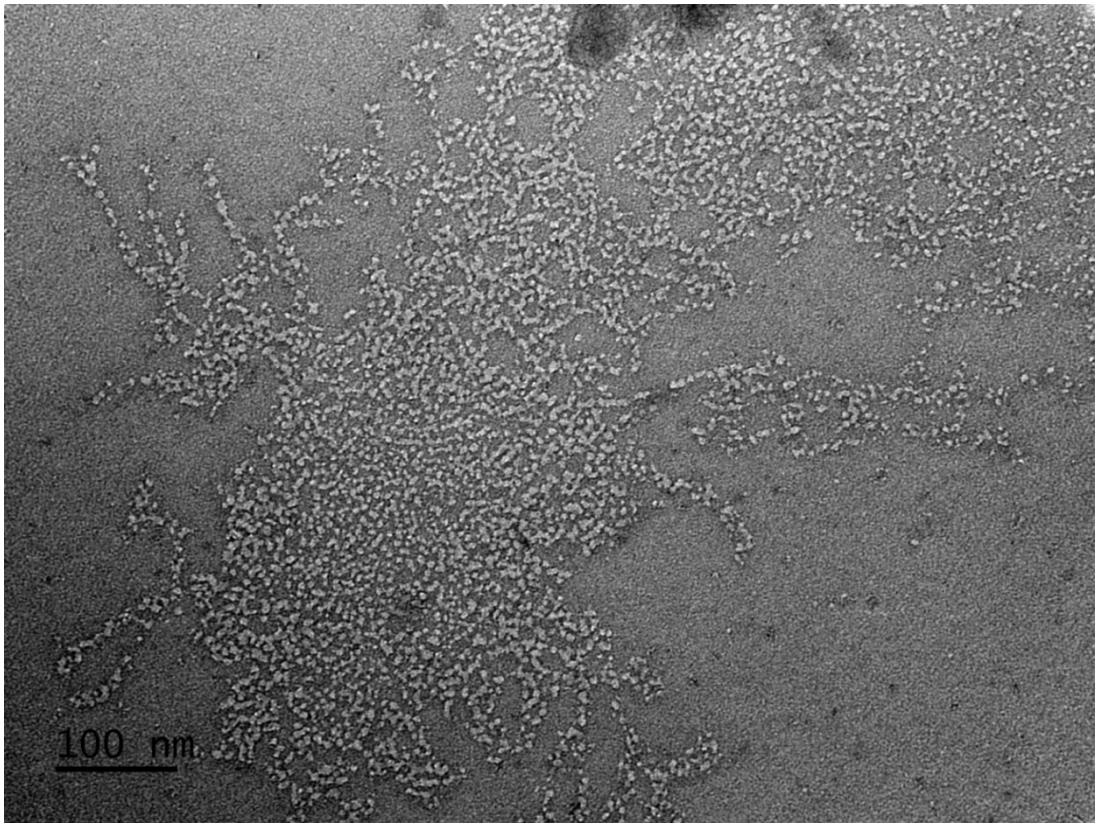



**Figure S3:** TEM image of a) NP-L and b) NP-PS (with samarium acetate staining specifically hydrophilic regions) showing nanoparticles of undefined morphologies in both cases.

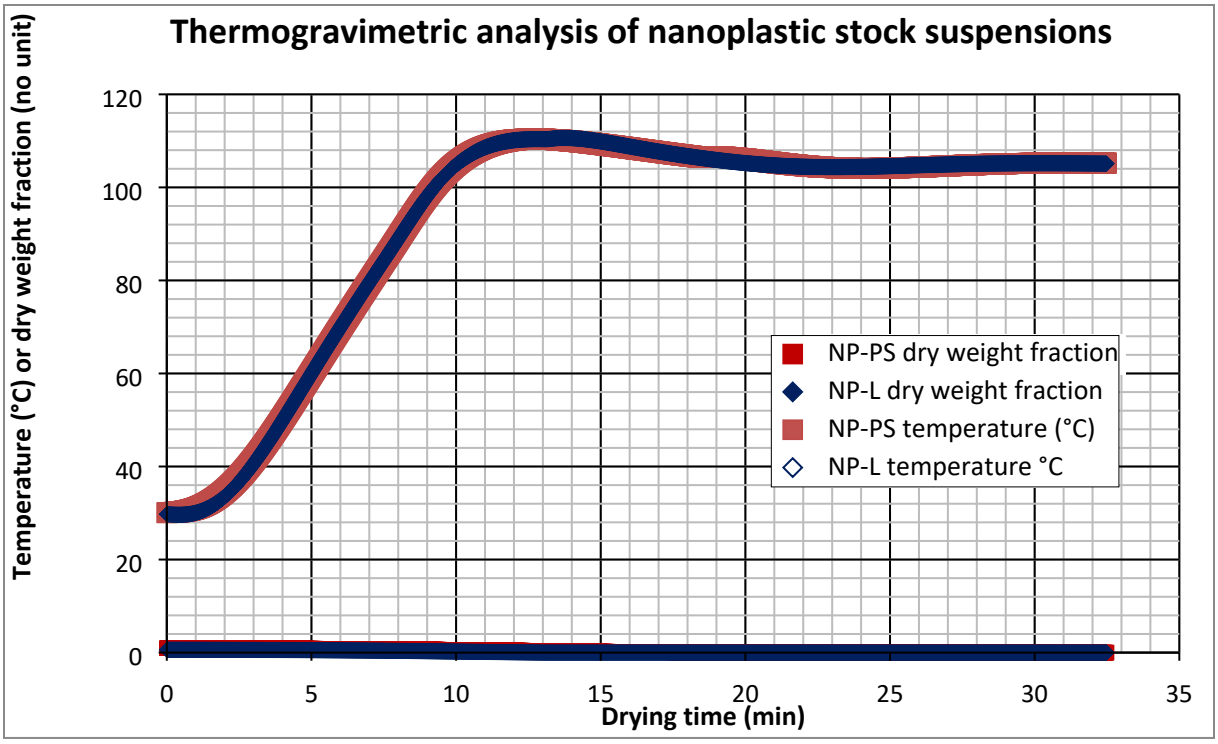



**Figure S4:** Thermogravimetry analyses (TGA) of a) NP-L and b) NP-PS suspensions yielding the weight concentrations of the stock suspensions: 147 mg/L for NP-L and 420 mg/L for NP-PS.