



Effect of the Surface Hydrophobicity–Morphology–Functionality of Nanoplastics on Their Homoaggregation in Seawater

Cloé Veclin, Cloé Desmet, Alice Pradel, Andrea Valsesia, Jessica Ponti, Hind El Hadri, Thomas Maupas, Virginie Pellerin, Julien Gigault, Bruno Grassl, et al.

► To cite this version:

Cloé Veclin, Cloé Desmet, Alice Pradel, Andrea Valsesia, Jessica Ponti, et al.. Effect of the Surface Hydrophobicity–Morphology–Functionality of Nanoplastics on Their Homoaggregation in Seawater. ACS ES&T Water, 2022, 2 (1), pp.88-95. 10.1021/acsestwater.1c00263 . insu-03509225

HAL Id: insu-03509225

<https://insu.hal.science/insu-03509225>

Submitted on 4 Jan 2022

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.

Effect of the surface hydrophobicity-morphology-functionality of nanoplastics on their homo-aggregation in seawater

Cloé Veclin^a, Cloé Desmet^b, Alice Pradel^{c, d}, Andrea Valsesia^b, Jessica Ponti^b, Hind El Hadri^a,
Thomas Maupas^a, Virginie Pellerin^a, Julien Gigault^d, Bruno Grassl^{a*}, Stéphanie Reynaud^a

^a IPREM, Université de Pau et des Pays de l'Adour, E2S UPPA, CNRS, IPREM, Pau, France

^b European Commission Joint Research Centre (JRC), 21027 Ispra, Italy

^c Géosciences Rennes, UMR 6118, CNRS – Université de Rennes 1, Av. Général Leclerc,
Campus de Beaulieu, 35000 France

^d TAKUVIK Laboratory, CNRS/Université Laval, 1045, av. de la Médecine, Québec
(Québec) G1V 0A6 Canada

* bruno.grassl@univ-pau.fr

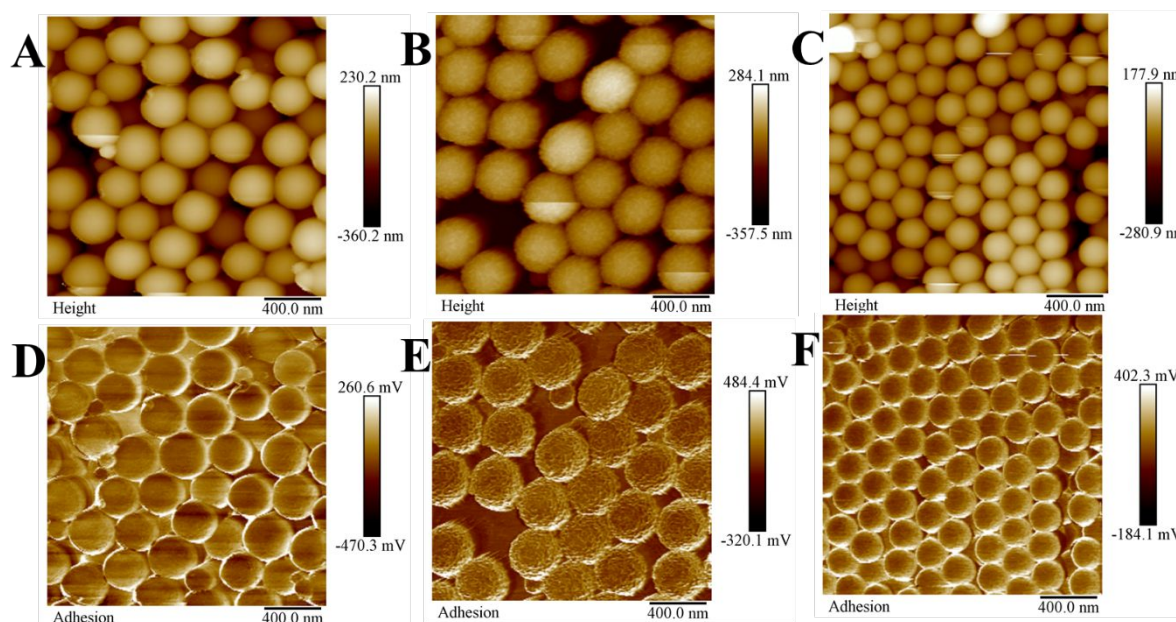


Figure S1: A, B, C: AFM topography images of PS9-AA, PS22-AA and PS22-MAA films with their particle size; D, E, F, adhesion images of PS9-AA, PS22-AA and PS22-MAA respectively.

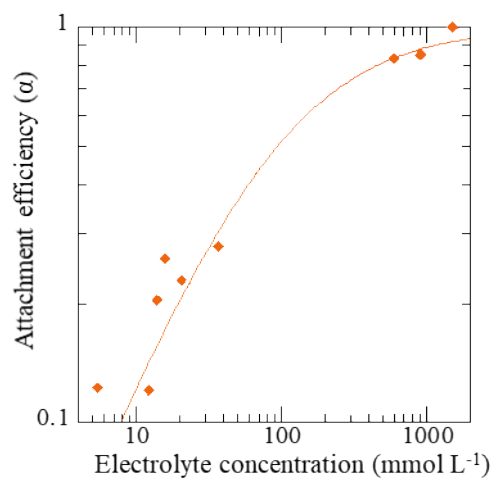


Figure S2: Attachment efficiency as function of electrolyte concentration of PS-m. The line represents empirical fitting to equation 1.

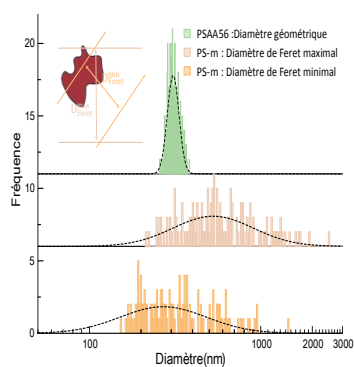


Figure S3 : Size distribution of (●) geometric diameter of spherical model nanoplastics (PSAA56), maximum (●) and minimum (●) F  ret diameter of polymorphic nanoplastics (PS-m)