## **Supporting Information**

## Interactions between Amphiphilic Janus Nanosheets and a Nonionic Polymer in Aqueous and Biphasic Systems

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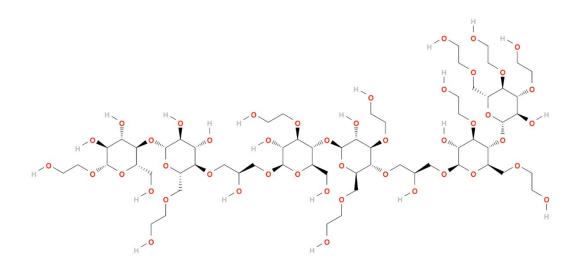


Figure S1. 2D structure of the HEC molecule used in the simulations.

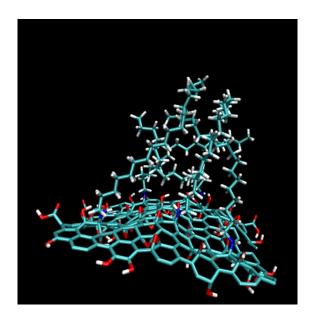
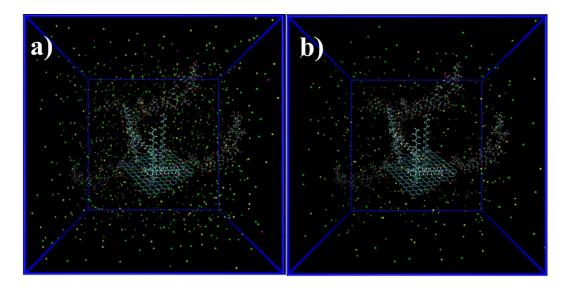
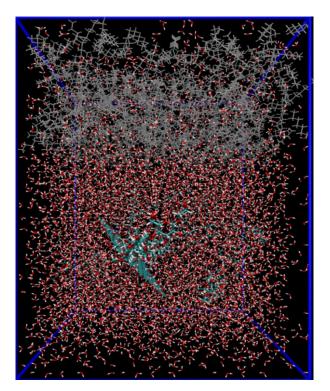


Figure S2. MD simulation of a graphene-based amphiphilic Janus nanosheet in water.



**Figure S3.** The initial states of MD simulations between one amphiphilic Janus nanosheet and four HEC molecules in **a**) high-salt condition (8 wt.% NaCl and 2 wt.% CaCl<sub>2</sub>) and **b**) low-salt condition (4 wt.% NaCl and 1 wt.% CaCl<sub>2</sub>).



**Figure S4.** The initial state of MD simulations between one amphiphilic Janus nanosheet and four HEC molecules in a biphasic system with a high ionic condition (8 wt.% NaCl and 2 wt.% CaCl<sub>2</sub>).