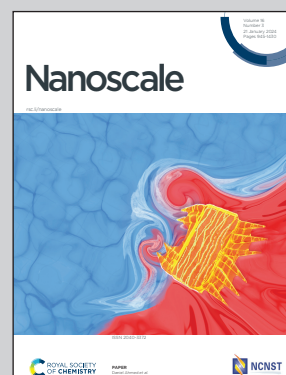


Showcasing work from the groups of Professor Ivan Mijakovic & Professor Elsebeth Schröder, Chalmers University of Technology, Sweden.

Differences in interaction of graphene/graphene oxide with bacterial and mammalian cell membranes

In this article, the interaction of bacteria and mammalian membrane phospholipids with graphene materials was investigated at the quantum level by density functional theory calculations as well as experiments on liposomes composed of phospholipids abundant in bacteria and mammalian membranes. It is found that weak/strong intermolecular interactions between the phospholipids themselves, as well as their less/highly repulsive forces to the graphene materials, are the key factors that affect the interaction of bacteria/mammalian membrane phospholipids with graphene materials. This finding decodes the different behaviors of living cells in interaction with graphene materials used as antibacterials or drug carriers.

As featured in:



See Ivan Mijakovic, Shadi Rahimi *et al.*, *Nanoscale*, 2024, **16**, 1156.