

The characterization and formation of phospholipids nanoemulsion coating on Mg-modified sericite surface

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This work showed the formation of phospholipids vesicles on inorganic sericite surface with characterization by combining electron microscopy of FE-SEM, TEM, AFM, and qualitatively evaluated the coated vesicles by XPS as a function of etching time. The possibility of vesicle mobility on the surface was restrained from the chelation effect using a magnesium cation, where the stabilization property demonstrated by various concentration of magnesium cation showed the presence of magnesium was found to have a much more pronounced influence on the lipid deposition process. Moreover, the Mg cation plays an important role for attaching the phospholipids with optimum concentration of 7 mM. Totally, the phospholipids nanoemulsion coating on inorganic powder could be useful for bio-related fields such as cosmetics, and drug delivery system as the key functional compounds. We hope this basic result lead to a general and simple approach to prepare a wide a range of controlled releasing materials including an encapsulation with cosmetics or drugs at the nanometer scale.