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**Phosphomolybdic acid-responsive Pickering emulsions stabilized by ionic liquid functionalized Janus nanosheets**

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**Abstract**

A type of ionic liquid functionalized high-aspect-ratio Janus SiO<sub>2</sub> nanosheets (IL-Janus nanosheets), which possesses a side terminated by imidazolin salt groups and the opposite side terminated by phenyl groups, was prepared and its emulsification performance was investigated. The surface wettability of ionic liquid functionalized side could be tailored via simple anion exchanging, giving the amphiphilic or totally hydrophobic Janus nanosheets. The influence of several parameters including surface wettability, particle concentration, oil composition, oil-water ratio as well as initial location of the nanosheets on the stability, morphology and type of the Pickering emulsions (O/W or W/O) stabilized by the amphiphilic IL-Janus nanosheets was evaluated. The research results revealed that average

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