

Establishment of Cell-MOF hybrid system

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Mammalian cells are protected by a membrane. However, cellular membrane is fragile and easy to break by external mechanical stresses. Exterior coating (synthetic coating) can protect the living cells from external stress coming from the environment. While the synthetic coating on living cells can afford persistent cellular viability to environmental stress, it should also allow the exchange of nutrients and stimulants necessary for cell survival. Metal-Organic frameworks (MOF) is known as porous coordination polymers that has exceptional chemical robustness and thermal stability. Due to its high thermal and chemical stabilities, recently, the integration of MOF with biomolecules has risen as a promising way to protect the biofunctionality of biological substances. Here, we reports a simple synthesis method of coating MOF on living mammalian cells.