

ABSTRACT

POLYOXOMETALATE AND HETEROPOLYOXOMETALATE COMPOSITIONS AND METHODS FOR THEIR USE

The present invention relates to novel compositions comprising a metal component selected from a group chosen from at least one polyoxometalate, at least one heteropolyoxometalate and a mixture thereof; and, at least one organic component. The present invention also relates to methods of preparing the nanorod arrays and the nanorod materials and films. The present invention also relates to novel compositions to generate metal-oxide rich films, and also relates to processes for via or trench filling, reverse via or trench filling and imaging with underlayers. The materials are useful in wide range of manufacturing applications in many industries, including the semiconductor devices, electro-optical devices and energy storage industry.

(FIGURE 5A)