

291x Synthesis of Shape-Controlled Iron Oxide Nano-Structures in Ionic Liquids

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Various of nano-structures of iron oxides have been successfully synthesized in the 1-butyl-3-methylimidazolium bis(triflylmethyl-sulfonyl) imide, [BMIM][Tf₂N], ionic liquid with various capping reagents. These nanostructures have been characterized using transmission electron microscope (TEM), high-resolution TEM (HRTEM), powder X-ray diffraction (PXRD), and superconducting quantum interference devices (SQUID). The shape control process has been systematically studied and a mechanism will be presented. This method could pave the way for the green production of nano-materials with different compositions.