Synthesis and characterization of nanostructured Prussian blue analogues and their applications in highly efficient cesium adsorption and organic pollutant degradation

Jiayi Liu\(^1\,^2\), Junhu Wang\(^1\)*

\(^1\) Mössbauer Effect Data Center, Dalian Institute of Chemical Physics, Chinese Academy of Sciences, 457 Zhongshan Road, Dalian 116023, China. \(^2\) University of Chinese Academy of Sciences, Beijing 100049, China

Abstract

Prussian blue analogues (PBAs) are important members of Porous Coordination Polymers (PCPs) with large surface area and controllable compositions, which endows it broad application in catalysis, adsorption of heavy metal ions and gas storage. Finely morphology-controllable synthesis of PBAs is highly desirable to optimize their performance and broaden their application. The talk presents how to realize finely morphology-controllable synthesis of Fe\(_3\)[Co(CN)\(_6\)]\(_2\) nanomaterials through Zn\(^{2+}\) doping and temperature modulation, as well as to study their application in cesium adsorption and Fenton catalysis to degrade bisphenol A (PBA).

Recent Publications

Biography

Prof. Junhu Wang is a full professor at Dalian Institute of Chemical Physics, Chinese Academy of Sciences. He received the Ph.D. in inorganic and radiochemistry from Toho University, Japan (2002). He was a research fellow at the National Institute for Materials Science (NIMS) and National Institute of Advanced Industrial Science and Technology (AIST), Japan (2002-2004). In 2004 he was appointed as an associate researcher at Chukyo University, Japan. He has been Secretary General, Mössbauer Effect Data Center and Execute Editor of Mössbauer Effect Reference and Data Journal (2010-Present). His current research interests include the applications of Mössbauer spectroscopy in chemistry and catalysis, development and characterization of the novel nanocomposite functional materials for industrial catalysis and adsorption.

Email: wangjh@dicp.ac.cn