

CXN天然沸石的研究III.新型 LiCl/H-STI主/客体固电解质的制备与表征

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摘要 利用自发热扩散法,将易潮解流失的LiCl(客体)固全到CXN沸石改所得的H-STI沸石(主体)上,形成新型主/客体材料,粉末XRD,SEM,FT-IR和TG/STA等方法表征显示LiCl已经分散到H-STI孔道中,实现了客体的稳定化,其分散阈值

0.14g/g。负载量为阈值的样品在绝湿条件下的电导率比主体H-STI提高了四个数量级,是一种良好的固体电解质。

关键词 [沸石](#) [电解质](#) [氯化锂](#) [电导率](#) [X射线衍射分析](#) [扫描电子显微镜](#) [付里叶变换](#) [红外分光光度法](#)

分类号 [0646](#)

Studies on CXN natural zeolite 3: Preparation and characterization of novel LiCl/H-STI guest /host solid electrolyte

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Abstract By calcination at 250 °C for 16h, LiCl can be highly dispersed into the channels of H-STI prepared from natural CXNB(STI type) zeolite discovered in China to form a novel guest /host material. XRD, SEM, FT-IR and DTA analysis show that LiCl has been loaded and stabilized in the channels of H-STI. The threshold of LiCl loaded in H-STI is 0.14g/g, which has been confirmed by AC-impedance measurements. A sample of LiCl/H-STI with 0.14g/g loading found to possess the highest conductivity, which is four orders of magnitude higher than that of the host (H-STI). This fact indicates that LiCl/H-STI is a promising solid electrolyte.

Key words [ZEOLITE](#) [ELECTROLYTE](#) [LITHIUM CHLORIDE](#) [ELECTRICAL CONDUCTIVITY](#) [X-RAY DIFFRACTION ANALYSIS](#) [SCANNING ELECTRON MICROSCOPES](#) [FOURIER TRANSFORM](#) [INFRARED SPECTROPHOTOMETRY](#)

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